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ABSTRACT

The theme of this conference was "Critical Thinking: The Thinking That Masters the Content." This "proceedings" volume is essentially a conference program. It is composed primarily of abstracts of presentations made at the conference. An introduction examines the history of the conference, the organization of the conference, and the conference theme. Also provided, in addition to the abtracts, is the conference schedule and a list of conference presenters' addresses. (DB)

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Tenth Annual International

Conference on Critical Thinking and Educational Reform

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Sonoma State University

Henry Steele Commager

Dean of American Historians

Addressing the First International Conference on
Critical Thinking and Educational Reform

Proceedings of

The Tenth Annual International Conference on Critical Thinking and Educational Reform

August 5-8, 1990

◆

Under the auspices of the

Center for Critical Thinking and Moral Critique

From Previous Conferences

Edward Glaser

Neil Postman

David Perkins

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About the Center

Richard Paul
Director, Center for Critical Thinking

The Center conducts advanced research and disseminates information on critical thinking and moral critique. It has been working closely with the California State Department of Education, the College Board, numerous school districts, the Association for Supervision and Curriculum Development, the National Education Association, and the newly established Foundation for Critical Thinking to facilitate implementation of high standards of critical thinking instruction from kindergarten through the university.Its major work includes:

•International Conferences on Critical Thinking

Each summer, in early August, the Center hosts the oldest and largest critical thinking conference with registrants from virtually every state of the union and numerous foreign countries.

•Resources for Instruction

The Center is publishing a series of critical thinking handbooks designed to aid teachers to remodel their own lessons in various subjects. The Center also houses the largest collection of critical thinking audio and video cassettes extant.

•Staff Development Services

The Center provides staff development services at every level of education from kindergarten through graduate school. Staff development programs emphasize the critique and redesign of instruction to infuse critical thinking principles into subject matter instruction. The Center is in the process of setting up a network of qualified inservice consultants in every area of the United States and Canada.

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Director, Illinois Thinking Project, University of Illinois, Champaign, IL

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Professor of Philosophy, Founder and Director, Institute for the Advancement of Philosophy for Children, Montclair, NJ

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Professor of Philosophy, Sonoma State University

Joel Rudinow
Center Research Associate

Director

Richard Paul

National Council for Excellence in Critical Thinking Instruction

As the term "Critical Thinking" gains greater and greater currency in education, there is a growing number of individuals who are declaring themselves experts in the field and promising to provide short-term training for teachers and simple-to-apply programs and strategies. The purpose of the National Council is to draw upon the collective wisdom of those in leadership in the field to articulate minimal standards for quality in-service and instruction for critical thinking and to help serve as a clearinghouse for information about quality programs and strategies:

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Fellow, John Simon Guggenheim
Memorial Foundation

George Hanford
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Albert Shanker
President, American Federation
of Teachers

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Introduction

Critical Thinking: What, Why, and How

The Logically Illogical Animal

Ironically, humans are not simply the only "logical" animal, they are also the only "illogical" animal. They are the only animal that use meanings — ideas, concepts, analogies, metaphors, models, theories, and explanations — to make sense of things, to understand, predict, and control things. They are also the only animal that uses meanings to negate, contradict, and deceive themselfs, to misconceive, distort, and stereotype, to become dogmatic, prejudiced, and narrowminded. Humans are the only animal whose thinking can be characterized in terms like clear, precise, accurate, relevant, consistent, profound, and fair; they are also the only animal whose thinking is often vague, imprecise, inaccurate, irrelevant, inconsistent, superficial, trivial, and biased.

Critical thinking makes sense in the light of this paradoxical dichotomy. Humans should not simply trust their instincts. They should not believe unquestioningly what spontaneously occurs to them. They should not accept as true everything taught as true. They should not assume their experience is unbiased. They are not born with but need to form intellectually sound standards for belief, for truth, for validity. They need to cultivate habits and traits which integrate these standards into their lives.

This logical-illogical dichotomy of human nature has implications for human learning. One can learn by means of the rational capacities of the human mind or through its irrational propensities. There are profound reasons for cultivating the capacity of the human mind to discipline and direct its thought through commitment to intellectual standards. Unfortunately, much academic learning is of a lower-order: undisciplined, associative, and inert. Much of it is an obstacle rather than an aid to education. Much of it is a block to genuine understanding.

What students often learn well — that school is a place to repeat back what the teacher or textbook said — blocks them from thinking seriously about what they are learning. Though there are circumstances in everyday life where lower-order, rote learning is sufficient, those circumstances are diminishing rapidly. At the same time, the damage done by multiple forms of prejudice and narrowmindedness — academic, social, personal, professional, religious, racial, national, and ideological — continues to mount. The irony is that higher-order learning can be cultivated in almost any academic setting. By focusing on the rational capacities of students' minds, by designing instruction so that students explicitly grasp the sense, the logic, of what they are learning, we can make all additional learning easier for them. Higher-order learning multiplies comprehension and insight; lower-order, rote memorization multiples misunderstanding and prejudice. Higher-order learning stimulates and empowers, lower-order discourages and limits the learner. Though very little instruction deliberately aims at lower-order learning, most results in it. "Good" students have developed techniques for short-term, rote memorization; "poor" students have none. But few students know what it is to think analytically through the content of a subject, few use critical thinking as a tool for acquiring knowledge.

Didactic lectures and extensive coverage of content combine with student passivity to perpetuate the lower-order thinking and learning students have come to associate with school. When students do not actively think their way to conclusions, when they do not discuss their thinking with other students or the educator, when they do not entertain a variety of points of view, do not analyze concepts, theories, or explanations from their own points of view, do not actively question the meaning and implications of what they are learning, do not compare what they are learning to what they have experienced, do not tackle non-routine problems, do not examine assumptions or gather evidence, they do not achieve higher-order learning. They end their schooling with a host of fragmentary opinions, rigidly understood procedures, and undisciplined beliefs. They gain little knowledge or insight. They are at best *trained,* not *educated,* not critical thinkers or persons. As a result, their value and adaptability, their capacity to learn on the job and in their personal and civic lives is severely limited. What is more, their ability to mature intellectually and morally, their capacity and motivation to learn, is stunted.

Recognition of the economic implications of the pervasiveness of lower-order learning is illustrated in an open letter which was drafted by the president of Stanford University, Donald Kennedy, co-signed by 36 other college leaders from across the U.S.A. and sent to 3,000 college and university presidents (Sept. 18, 1987). It warned of "a national emergency ... rooted ... in the revolution of expectations about what our schools must accomplish:

> *It simply will not do for our schools to produce a small elite to power our scientific establishment and a larger cadre of workers with basic skills to do routine work. Millions of people around the world now have these same basic skills and are willing to work twice as long for as little as one-tenth our basic wages. To maintain and enhance our quality of life, we must develop a leading-edge economy based on workers who can think for a living. If skills are equal, in the long run wages will be, too. This means we have to educate a vast mass of people capable of thinking critically, creatively, and imaginatively.*

Lauren Resnick, in a recent National Research Council document, put it this way (Resnick, 1987):

> *The question of whether schools can do a better job of teaching American children "higher-order skills" is very much in the air. It arises in Congressional hearings, where calls are heard for school graduates better able to take on work that requires responsibility and judgment. It is reflected in public concern that changing employment demands are not being met, students' preparation for college is less than satisfactory, and general problem-solving abilities remain low.*

Recognition of the social, political, and moral implications of lower-order learning is growing with the realization that both developed and underdeveloped nations face complex problems that cannot be solved without significant intellectual growth on the part of large masses of people. Such growth presupposes increased reflective and critical thinking about deep-seated problems of environmental damage, human relations, over-population, rising expectations, diminishing resources, global competition, personal goals, and ideological conflict.

This problem of lower-order learning will not be solved outside of school, for the lay person is increasingly bombarded with diverse, contradictory explanations and prescriptions. Lacking experience with complex thinking, unused to critical thinking, the ordinary person retreats in the face of complexity to simplistic traditional pictures of the world. The growing mass media feed this demand for simple-minded answers. If schools and colleges do not cultivate a shift from rote memorization to critical thinking, there is little possibility that the shift will significantly occur outside of school.

To effect this shift, teachers and professors must consider a new concept of knowledge, learning, and literacy, one more in tune with the modern world, one that links the acquisition of knowledge through dialogical and dialectical thinking with the development of minds at home with complexity and ambiguity, able to adjust their thinking to accelerating changes, minds not fixated on present beliefs, not easily manipulated or taken in by propaganda. The theoretical foundation for this need and the appropriate way to meet it are now accumulating a solid research base. Its academic implementation is merely beginning; its full development around the world is probably 10 to 25 years in the future.

Lower-Order Learning

There are a variety of forms of lower-order learning in the schools. We can understand the forms by understanding the relative lack of logic informing them. Paradigmatically, lower-order learning is learning by sheer association or rote. Hence, students come to think of history class, for example, as a place where you hear names and dates and places; where you try to remember them and state them on tests. Math comes to be thought of as numbers, symbols, and formulas — mysterious things you mechanically manipulate as the teacher told you to get the right answer. Literature is often thought of as uninteresting stories to remember along with what the teacher said is important about them.

We can improve student's performance only by improving student thinking. We can improve their thinking only by creating opportunities and incentives for them to think. We can provide them with opportunities and incentives to think only if those who teach are given time to thoughtfully redesign their instruction. We can create time to thoughtfully redesign instruction only if we ease the compulsion to cover huge amounts of subject matter. We can reduce the obsession to cover huge amounts of subject matter only if the curriculum is restructured to focus on basic concepts, understandings, and abilities. We can restructure the curriculum to focus on basic concepts, understandings, and abilities only if faculty understand why such a focus is essential to the kind of higher-order learning that engenders rational and responsible citizens, workers, and persons, people for whom adaptability is a way of life.

In education, the whole is greater than the sum of the parts. We need to forge connections that shape the parts into a coherent educational whole. To achieve this, there is nothing more important than a clear conception of education embedded in curriculum, inservice, and instruction. No significant reform of education can take place unless we face up to the didactic, lower-order conception of education that informs daily practice. Present instructional practices imply an equation between parroting information and acquiring knowledge. Faculty at every level of education often feel compelled to cover information even though they know their students do not significantly understand and will soon forget it. Behind this practice is a network of uncritically held assumptions that need to be made explicit and refuted, namely:

1) *that students will learn* **how** *to think if only they know* **what** *to think,*
2) *that knowledge can be given directly to students without their having to think it through for themselves,*
3) *that to become educated is to store up content analogous to a data bank,*
4) *that quiet classes with little student talk are typically reflective of students' learning,*
5) *that students can gain significant knowledge without seeking or valuing it,*
6) *that material should be presented from the point of view of the authority, the one who knows,*

7) *that superficial learning can later be deepened,*
8) *that coverage is more important than depth,*
9) *that students who can correctly answer questions, provide definitions, and apply formulae demonstrate substantial understanding, and*
10) *that students learn best by working alone in silence.*

One who understands and values education as higher-order learning holds a very different set of assumptions, namely:

1) *that students can learn* ***what*** *to think only as they learn* ***how*** *to think,*
2) *that knowledge is acquired only through thinking,*
3) *that educated persons are those who have learned how to gather, analyze, synthesize, assess, and apply information for themselves,*
4) *that classes with much student talk, focused on live issues, is a better sign of learning than quiet classes, focused on a passive acceptance of what the instructor says,*
5) *that students gain significant knowledge only by valuing it,*
6) *that information should be presented so as to be understandable from the point of view of the learner, which requires that it be related to the learner's experiences,*
7) *that superficial learning is often mislearning that stands as an obstacle to deeper understanding,*
8) *that depth is more important than coverage,*
9) *that students can often provide correct answers, repeat definitions, and apply formulas while not understanding those answers, definitions, or formulas, and*
10) *that students learn best by working with other students, and by gaining much experience in mutually supportive debate and empathic exchange of ideas.*

These contrasting beliefs about education, knowledge, teaching, and learning have contrasting implications for how textbooks should be written, how instruction should be carried out, and how students should go about learning. If the first set of statements collectively defines a didactic conception of education, the second defines a critical conception of education. If the first set encourages lower-order learning, the second encourages higher-order. A paradigm shift is needed to make higher-order thinking a classroom reality. The sessions of the Tenth International Conference on Critical Thinking and Educational Reform are focused on making this shift a reality.

History of the Conference

Gerald Nosich
Professor, University of New Orleans

Frances Moore Lappé
Senior Analyst, Food First

John Chaffee
Professor, La Guardia Community College

History of the Conference

The 1990 Conference on Critical Thinking and Educational Reform reflects the development implicit in the nine annual conferences which preceded it. From the beginning, the First National Conference on Critical Thinking, Moral Education, and Rationality (1981), the concept of critical thinking we have fostered was linked to broadly-based ethical concerns and not simply on more narrowly defined academic and technical needs. We began by bringing together some of the finest philosophical minds to reflect upon this crucial area of concern. Nicholas Rescher, Michael Scriven, Joseph Ullian, Julius Moravcsik, Ruth Marcus, Ralph Johnson, J. Anthony Blair, and Mary Anne Warren were among those who set us on our way. Beginning with thinkers capable of the most profound and self-critical thought was an excellent foundation on which to build. But we quickly saw that if progress were to be made, we had to expand our efforts to involve decision-makers at all levels of education. We were well aware that reports on educational reform would not reform education. Very often these reports themselves were in need of critique.

Subsequent conferences have been expanded progressively, therefore, to include more emphasis on the crucial early years and on the forces and factors affecting the realities of teaching. We have sought to augment and unfold sound theory with models of sound practice — hence our growing emphasis on workshops and video-tapes modelling instruction.

There have been two central problems that we have faced in bringing together K–12 and college instructors. Many college instructors and theoreticians have had little experience trying to translate the results of their research into classroom strategies at the K–12 level. And many K–12 teachers, in turn, have little sympathy for any theory that cannot immediately be so translated. Indeed, there is still alive in educational circles today the syndrome that H. L. Mencken so vividly characterized:

> *The aim seems to be to reduce the whole teaching process to a sort of automatic reaction, to discover some master formula that will not only take the place of competence and resourcefulness in the teacher but that will also create an artificial receptivity in the child. Teaching becomes a thing in itself, separable from and superior to the thing taught. Its mastery is a special business, a sort of transcendental high jumping. A teacher well grounded in it can teach anything to any child, just as a sound dentist can pull any tooth out of any jaw. (Baltimore Sun, 1923)*

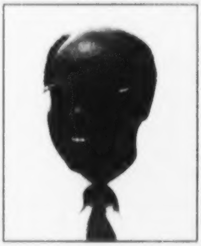
In 1986, 280,000 California eighth-grade students took a history-social science test in which 40% of the questions addressed critical thinking skills. The California State Department of Education has developed a continuum of critical thinking skills for the 3rd, 6th, 8th, 10th, and 12th grades. A number of other states, including Texas, New York, Connecticut, Pennsylvania, South Carolina, Utah, Wisconsin, and Alaska, are mandating critical thinking instruction in one form or another. The College Board has already pointed out that the ability to reason and think critically is a fundamental and necessary component in all other basic academic competencies. And, just recently, the American Federation of Teachers has published a national position paper on critical thinking.

The Center for Critical Thinking and Moral Critique has been working closely with the California State Department of Education, the College Board, numerous school districts, the Association for Supervision and Curriculum Development, the National Education Association, and the American Federation of Teachers to facilitate implementation of the highest standards of critical thinking instruction from kindergarten through the university.

It is important to recognize that we are still very much in the beginning stages of educational reform based on critical thinking instruction. There is every reason to think that the need for an annual conference in critical thinking will continue indefinitely. The deeply entrenched compartmentalization of knowledge, the increasing sophistication of propaganda and mass manipulation techniques, the continuing dominance of rote memorization and recall of facts as modes of learning, the growth of television and the electronic media, the increasing conflict of opposing ideologies in the global village, the acceleration of misunderstanding and stereotype in international politics, the growing desire for a simplistic explanation of life wherein opposing groups are identified as essentially "good" or "evil," the growing threat of nuclear holocaust — all argue for the pressing need for fair-minded critical thinking skills.

Organization of the Conference

Vincent Ryan Ruggiero
Author/Consultant



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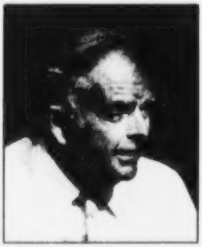

George Hanford
President Emeritus, The College Board

Organization of the Conference

We assume that all of the participants in the conference bring to it a shared general interest in critical thinking, understood as a family of interdependent intellectual skills and abilities in need of support by a complex of rational passions. We assume as well, then, that all participants share a commitment to the principle that such abilities and affective qualities can only be developed over an extended period of time and as the result of careful cultivation. We expect, therefore, that all participants will have some interest in the unique and necessary contributions of others working in diverse subject areas and at diverse educational levels.

Those who teach the early grades need to understand and appreciate the superstructure that is to be built upon the foundations they help to lay. Those who teach the middle grades need to understand and appreciate what has come before and what is to follow. And those who teach the later grades need to provide the capstones that will solidify the skills, insights, and passions that can secure life-long learning grounded in deeply internalized critical thinking skills. We assume, then, that all participants will make some effort to communicate with and build connections to others, to reach out beyond the parochialism of subject matter and grade level.

At the same time, we realize that special interest groups exist within the critical thinking movement and need to develop along a manifold of directions. We will be accommodating this need in two ways: 1) by classifying all presentations with a label that indicates possible special interest concerns (e.g., G, E, JH, HS, K–12, CC, U, etc.), and 2) by setting up an early meeting time on Tuesday morning (7:45–8:45) for groups to organize themselves into networks. (See page 1 of the Appendix for more information on these special interest meetings.) Virtually all sessions have been scheduled for 1$^{1}/_{2}$ hours to maximize opportunities for questions and discussion.

The evening social hours are intended to be an integral part of the conference. We are encouraging all of the presenters to make themselves available for the social hours so that the kinds of extended exchanges rarely possible in question and answer sessions might be facilitated.

Conference Theme

Critical Thinking: The Thinking That Masters the Contemt

Perry Weddle
Professor, California State University, Sacramento

Connie De Capite
Curriculum Specialist, Santa Ana Unified School District

Art Costa
Past President, A.S.C.D.

Conference Theme
Critical Thinking: The Thinking that Masters the Content

The conference theme has been selected to give participants a central concept they can use to understand the basic relationships among the various presentations. This year it is focused on a fundamental insight, the absense of which leads inevitably to a false dichotomy: "Which is more important, content or thinking?" This false dicotomy is based on the misconception that one can absorb content without thinking, on the one hand, or think about nothing at all, on the other. The fact is that there is no such thing as "content-less" thinking or content that can be mastered without thought. There is no need to choose between an emphasis on content and an emphasis on thinking. Students can master content *only* through disciplined thinking and thinking can be disciplined *only* through the medium of content. We need to recognize and continually emphasize how content and thinking are inseparably intertwined. Another way to highlight this insight is through a recognition that all knowledge is embedded in thought.

Knowledge as Embedded in Thinking

We often talk of knowledge as if it could be divorced from thinking, as if it could be gathered up by one person and given to another in the form of a collection of sentences to remember. When we talk in this way, we forget that knowledge by its very nature depends on thought. Knowledge is produced by thought, analyzed by thought, comprehended by thought, organized, evaluated, maintained, and transformed by thought. Knowledge exists, properly speaking, only in minds that have comprehended and justified it through thought. And when we say *think* we mean *think critically*. Knowledge is not to be confused with belief nor with symbolic representation of belief. Humans are quite capable of believing things that are false or believing things to be true without knowing them to be so. A book contains knowledge only in a derivative sense, only because minds can thoughtfully read it and through that process gain knowledge. We often forget this and design instruction as if recall were equivalent to knowledge.

We need to remember that all knowledge exists in and through critical thought. All the disciplines — mathematics, physics, chemistry, biology, geography, sociology, anthropology, history, philosophy, and so on — are modes of thinking. We know mathematics not to the extent that we can recite mathematical formulas, but only to the extent that we can *think mathematically*. We know science not to the extent that we can recall sentences from our science textbooks, but only to the extent that we can *think scientifically*. We understand sociology only to the extent that we can *think sociologically*, history only to the extent that we can *think historically*, and philosophy only to the extent that we can *think philosophically*.

When we teach each subject in such a way that students pass courses without thinking their way into the knowledge that each makes possible, students leave their courses without any more knowledge than they had when they entered them. When we sacrifice thought to gain coverage, we sacrifice knowledge at the same time. The issue is not, "Shall we sacrifice knowledge to spend time on thought?", but, "Shall we continue to sacrifice both knowledge and thought for the mere *appearance* of learning, for mislearning, for fragmentary learning, for transitory learning, for inert, confused learning?"

The Field of Critical Thinking: Core Concepts

The field of critical thinking research and instruction is rich and diverse, but there are common core concepts and insights which can be used to organize that diversity and render it coherent. There is no question, for example, that there is a body of intellectual skills presupposed in critical thinking, skills which have broad application across the full range of human thought and action. Whenever humans act or think, they conceptualize or give meanings to their action and thought. These meanings or conceptualizations may be more or less clear (hence the importance of skills of clarification). These meanings organize and give expression to "information", which may be more or less accurate, well-justified, and complete (hence the importance of skills for the gathering, processing, and assessing of information). They are based upon beliefs, some of which we take for granted (hence the importance of skills for locating and assessing assumptions). They build toward or entail consequences and implications (hence the importance of skills for pinning down and assessing consequences and implications). Finally, human action and thought is based upon and creates meanings within some perspective, point of view, or world view (hence the importance of skills which locate the perspective or point of view within which a given action or line of thought is developed).

But critical thinking is not just about intellectual skills, for intellectual skills can be used in a variety of ways, some of which are inconsistent with the foundational values of critical thinking: love of truth, fairmindedness, and a concern to apply the same rigorous standards of evidence and proof to our own thinking — especially that which serves our vested interest — as we do to the thinking of others. It is, of course, easy to be "critical" when we are hostile to persons or belief systems, and very difficult when we are strongly predisposed to favor persons or belief systems. Our egocentric or sociocentric biases may act as blinders to narrow our critical thinking to what are fundamentally self-serving uses of it. This problem was identified in ancient Greece by Socrates and Plato as the problem of *sophistry*. We know it in the modern world as the problem of demagoguery, propaganda, closedmindedness, and self-deception. This, of course, is not simply a matter of stupidity or of conscious evil.

What it does mean is that critical thinking skills can be used to defeat the ends of critical thinking. Or, at least, a person may not yet have learned how to organize and use his or her critical thinking skills with the same degree of consistency within domains where there is emotional blockage. All of the above points highlight the need to emphasize the affective dimension of critical thinking, the dimension of values, commitments, and traits of mind. This does not mean, by the way, that we need to condition or indoctrinate students in an affective way, for the critical spirit can be nurtured only while actually practicing critical thinking in some (cognitive) way. One cannot develop one's fairmindedness, for example, without actually thinking fairmindedly. One cannot develop one's intellectual independence, without actually thinking independently. This is true of all the essential critical thinking traits, values, or dispositions. The crucial need is to develop instruction in such a way that, for example, fairminded and independent thinking are required by the very nature of what is done. Examples of assignments and practices that foster the critical spirit and demonstrate how to infuse critical thinking into subject matter instruction, can be found in the Handbooks on Critical Thinking, K–3, 4–6, 6–9, and High School which have been published by the Center.

If we are to educate students so that they develop the abilities and traits of a fairminded critical person, we must redesign schooling at all levels. To move beyond the superficial, we must take the long view and work for change over five to ten year periods. The basic habits that underlie teaching are as deep-seated as they are for any other human behavior. The compulsion to teach didactically is formidable. Only by patience, perseverance, and commitment can we achieve foundational change, and only foundational change will make a significant difference.

Infusing Critical Thinking Into Subject Matter Instruction, K–12

The Center staff advocates a lesson plan remodelling approach to infusion of critical thinking into subject matter instruction. This approach is built into critical thinking handbooks for teachers. The basic idea behind lesson plan remodelling for critical thinking is simple. When remodelling lessons, the teacher critiques a lesson plan using certain strategies and principles and formulates a new lesson plan based on that critical process.

Lesson plan remodelling can become a powerful tool in critical thinking staff development. It is action-oriented and emphasizes close examination and critical assessment of what is being introduced into the classroom on a day-to-day basis. It makes the infusion of critical thinking more manageable by paring it down to the critique of particular lesson plans and to the progressive infusion of particular critical thinking principles. Lesson plan remodelling is also developmental in that, over time, teachers can remodel more and more lesson plans, and what has been remodelled can be re-remodelled. It can provide a means of cooperative learning for teachers.

Results of this process can be collected and shared, so that teachers can learn from and be encouraged by what other teachers do. Dissemination of plausible remodels also provides recognition for motivated teachers. Furthermore, lesson plan remodelling forges a unity between staff development, curriculum development, and student development. Lesson plan remodelling helps avoid recipe solutions to critical thinking instruction, and integrates cognitive and affective goals into the curriculum.

Lesson plan remodelling is a long-term solution that transforms teaching incrementally as teachers develop and mature in their critical thinking insights and skills. If teachers can develop the art of critiquing the lesson plans they use and learn how to use that critique as the basis for remodelling the lesson plans, they will progressively (a) refine and develop their own critical thinking skills and insights, (b) reshape the actual or living curriculum, and (c) develop their teaching skills.

Infusing Critical Thinking Into Subject Matter Instruction at Colleges and Universities

Instruction at the college and university level is not typically built upon "lesson plans" so much as on course syllabi. All departments and professors play a role in planning how to structure their curriculum and teaching.

The Center staff makes the following eight recommendations:

1.

That a general statement of educational goals as they relate to critical thinking and basic intellectual skills be formulated and included in the catalog as well as a faculty handbook. This statement might, for example, read as follows:

> ### *Becoming an Educated, Independent Thinker*
>
> All students are expected to take responsibility for their own learning. This means that students are expected to learn the art of independent study and develop sound intellectual and occupational habits and skills. All work turned in should reflect care, thoroughness, and precision, should reveal command of the processes of critical reading, writing, speaking, and listening, and should demonstrate in-

dependent critical thought. Students should not approach their classes as so many unconnected fields, each with a mass of information to be blindly memorized, but rather as organized systems for thinking clearly, accurately, and precisely about interconnected domains of human life and experience. In science classes, students should learn to think scientifically, in math classes to think mathematically, in history classes to think historically, and so on, in such a way that if later called upon to respond to an issue in one of these domains, they will know how to begin to interpret and analyze it, seek and organize information appropriate to it, reason well concerning it, and devise a clear and reasonable way to go about finding an appropriate answer or solution with respect to it. To develop into disciplined and independent critical thinkers and learners, all students should be actively involved in their own learning, looking to find in each of their classes the most basic ideas, principles, and meanings that underlie the field and to use these as a basis for analyzing, synthesizing, and assessing all of the remaining information or content covered. Students should recognize that fundamental concepts and processes must be mastered before one can successfully understand a given domain of knowledge and that it is better to learn what is basic to a field deeply and well than to rush on to half-learn and so mislearn what is less basic. Classes will be structured so as to emphasize in-depth learning of fundamentals as a foundation for more advanced learning. Fundamental concepts and principles will continually be used as organizers for more advanced understandings.

2.

That for each area of study, a statement of the ideal student be formulated. This statement should help the students grasp in general terms what is expected of them as well as some of the more basic "payoffs" of studying in that area. As part of this statement, the general critical thinking skills list should be reformulated with the subject area in mind. The history department, for example, might formulate their goals vis-a-vis critical thinking in something like the following way:

Learning to Think Historically

All of the history courses have the goal of helping students learn how to think historically in a critical and insightful manner. This includes learning how to identify historical viewpoints, to gather and organize historical information, to distinguish basic historical facts from historical interpretations, and to recognize historical relationships and patterns as well as the relevance of historical insight to the understanding of current events and problems.

3.

That elements of these subject area statements also be incorporated into the college catalog as well as into a student orientation brochure to help students see the common objectives and skills that underlie all fields of study.

4.

That course descriptions and syllabi make clear how particular courses tie into these general objectives rather than simply specifying the particular specialized content of the course. This will help the student make connections between courses within a subject area as well as between subject areas. Rather than seeing only the specializations available, the student will grasp common elements, common goals, and common means to achieve them. For example, here is how an individual instructor, teaching American History, might follow up on the departmental goal statement for his particular course:

> #### *American History*
>
> The fundamental aim of the study of American history will be to aid students in thinking critically, insightfully, and knowledgeably about the American historical past, focusing on the basic issues upon which historians organize and base their research and the development of their divergent viewpoints. Students will learn how to write an historical essay in which they defend an historical interpretation based on organized, analytic, historical reasoning, reflecting their careful reading of professional historians.

5.

That the students be informed early in the course as to how the course is being designed not only to foster subject matter mastery but also critical competencies and intellectual traits.

6.

That a general critical thinking course be developed that can serve as a "core" course for all students and will focus on interdisciplinary issues and general critical thinking skills. The faculty should have input into what is covered in the course and should follow up and build upon it in each specialized subject domain.

7.

That a campus-wide critical thinking committee be formed to help facilitate on-going faculty development in the area of critical thinking, including locating resource materials, disseminating classroom teaching techniques, organizing follow-up seminars from time to time, and arranging for conference participation that facilitates development in this area.

8.

That a faculty critical thinking handbook be developed with submissions from many of the faculty leaders in the area of critical thinking. Faculty should be identified who have developed teaching and grading strategies that can be the basis for a shift of emphasis in instruction from a lecture-based, memory-based mode of instruction to one which more actively engages students in their learning and "forces" them to think their way through course material.

Schedule

Ralph Johnson
Professor, University of Windsor

Judith Collison
Assessment Associate
Connecticut State Department of Education

Robert Swartz
Co-Director, Center for Teaching Thinking

Key to Abreviations

Audience Codes

G	General
E	Elementary
JH	Junior High
HS	High School
K-12	Kindergarten–Grade 12
CC	Community College
U	University

Building Codes

EPT	Evert Person Theatre
STEV	Stevenson Hall
DAR	Darwin Hall
CH	Rachel Carson Hall
NICH	Nichols Hall

Sunday, August 5

8:00 - 9:00 **REGISTRATION**

9:00 - 10:15 **WELCOMING ADDRESS**
Richard Paul
Critical Thinking: The Thinking That Masters the Content
COMMENCEMENT AREA **G**

10:30 - 12:00 **Francis Moore Lappé**
Educating for Citizen Democracy
EPT **G**

Arthur L. Costa
What Human Beings Do When They Behave Intelligently and How they can Become More So
STEV 1002 **G**

Andrew Goodwin
The Logic of MTV
DAR 108 **G**

Vincent R. Ruggiero
Teaching Thinking Across the Curriculum
ART 108 **G**

John Chaffee
Practical Strategies for Teaching Critical Thinking in the Disciplines
CH 68 **CC, U**

Jan Williamson
Examples from the Classroom: Lessons and Strategies for Teaching Critical Thinking
STEV 2049 **K-12**

M. Neil Browne
Teaching that Really Matters: Why Critical Thinking Transcends "Content"
STEV 3008 **G**

Connie DeCapite
The Thinking-Writing Connection
DAR 139 **4-12**

John D. May
Sentential Awareness
STEV 3072 **G**

Connie Missimer
A Simple, Elegant, Natural Means to Master Content: By Theories
CH 20 **G**

10:30 - 12:00 *Continued*

Vivian M. Rosenberg
Helping Students Stretch: Fostering Emotional Intelligence to Facilitate Learning and Improve Critical Thinking
DAR 143 **G, HS, CC,U**

William Taylor
Critical Literacy— The Pedagogy of Critical Thinking
DAR 122 **HS, CC, U**

Judy Rollins Downs
Critical Thinking and Collaborative Learning: A Marriage Made in Heaven
DAR 112 **G**

Ogden Morse
Points of View: The Application of Thinking Skills to Subject Matter
NICH 173 **HS, CC, U**

T. Edward Damer
What the Fallacies Can Teach Us about Good Arguments
STEV 3046 **G**

George M. Luckey, Jr.
Teaching for Thinking: Classroom-Based Retention Strategies
STEV 3038 **CC, U**

William F. Burke
Quarks, Quirks and Quacks: The Use of Psuedoscience in Teaching Scientific Method and Critical Thinking
NICH 204 **HS, CC, U, G**

Zachary Seech, Patti Campbell, Jean Brown, Mike Bortnick
The Lincoln Middle School Critical Thinking Project
STEV 3026 **JH, HS, CC**

Craig Walton
What is Liberal and what is Conservative about Critical Thinking
STEV 3040 **G, CC, U**

Marlys Witte, Charles Witte
Prescription for the 90's: Designing Educational Experiments in Ignorance, Failure, and Chaos for Students and Teachers
STEV 3049 **G**

Toni Worsham, Anita Stockton
Thinking Better By Thinking About Thinking Together
STEV 3028 **K-12, G**

LUNCH: (12:00 - 1:30) or (1:30 - 3:00)

12:00 - 1:30 **JoAnn Carter-Wells**
Critical Reading as Critical Thinking
STEV 1002 CC, U

Doug Minkler
Art and Social Change
ART 108 G

Robert D. Kully, Allan McKissick
Tools for Analyzing Arguments: Structures, Models, and Diagrams
CH 68 G, HS, CC, U

Eugene Garver
Critical Thinking and Teaching Classic Texts: Bacon's Essay "On Revenge"
STEV 3072 HS, CC, U

John Hoaglund
Critical Thinking Across the College Curriculum
STEV 3046 CC, U

1:30 - 3:00 **Arthur Costa**
The School as a Home for the Mind
EPT G

Mark Weinstein
Critical Thinking Across the College Curriculum: What Faculty Wants and Needs
DAR 108 CC, U

Matthew Lipman
Philosophical and Non-Philosophical Aspects of Philosophy for Children
STEV 1002 G

Vincent Ruggiero
Teaching Ethics Across the Curriculum: A Critical Thinking Approach
ART 108 G

Richard Paul
Organized Practice in Lesson Remodelling and Redesign
CH 68 G

Jimmie Cook
Leading Middle Grade Children to Participate in Critical Thinking
STEV 2049 JH, U

Sunday, August 5

1:30 - 3:00
Continued

Nicholas Michelli, Wendy Oxman-Michelli, Robert Davis, Princess Towe
The THORP Game: A Simulation of the Effects of Teaching for Thinking
STEV 3008 **G, K-12, HS, CC, U**

Richard Wertime
Posing Questions: A Practical Workshop
DAR 139 **HS, CC, U**

Margot Soven, William Sullivan
Exploratory Writing as Resource for Critical Thinking in Context
STEV 3072 **CC, U**

Joel Rudinow
The "Just Say No" Seminar in Sales Resistance and Advertising Analysis
CH 20 **HS, CC, U**

Dennis Matthies
Question-Driven Learning
DAR 143 **G**

Lucy Cromwell
Teaching and Assessing Critical Thinking
DAR 122 **CC**

Stuart Keeley
From the Sponge to Panning for Gold in the Social Sciences: Abnormal Psychology as an Example
STEV 3046 **G**

Lenore Langsdorf
Is "The Conversation of Mankind" a Narrative or an Argument?
NICH 173 **U**
Theoretically Demanding

Carrol Steedman
Aristotle and the Repertoire of Reasoning in Continuing Educational Programs
STEV 3038 **CC, U**

Charles Wiederhold
Cooperative Questions About Content
STEV 3026 **G**

Betty Duffey
Integrating Critical Thinking Skills in Business Courses
NICH 166 **HS, CC, U**

3:15 - 4:45 **Gerald Nosich**
Learning the Material: Teaching Students to Think in Subject-Matter Courses
EPT K-12, U

Vincent Ruggiero
Stimulating Faculty Interest in Thinking Instruction
DAR 108 G

Robert Swartz
Combining Techniques for Direct Instruction in Critical Thinking Skills with the Infusion of Critical Thinking into Content Area Instruction
STEV 1002 K-12

Ralph Johnson
Thinking Critically about Subliminal Advertising
STEV 2049 G, U

Danny Weil
Understanding Social Science Through Multi-Cultural Global Literature: A Critical Thinking Approach to Elementary School Instruction (K-3)
ART 108 E

Richard Paul
Developing A Comprehensive Plan For School-Wide or District-Wide Reform
CH 68 G

Connie De Capite
Using Critical Thinking With Chapter 1 and At Risk Students
DAR 139 3-12

David Porter
Critical Thinking, Interdisciplinary Education, and Course Evaluations
CH 20 CC, U

Richard Pope
Math/Science for a Lifetime
DAR 143 3-8

Lynda Jerit
Training Wheels: Rethinking Teaching and Learning Across Disciplines
DAR 122 G, CC

Sunday, August 5

3:15 - 4:45
Continued

Wendy Oxman-Michelli, Mark Weinstein, Nicholas M. Michelli, Matthew Lipman
The Institute for Critical Thinking at Montclair State College: A Third Progress Report
STEV 3076 G

Karen Quartz
Teacher Empowerment and Critical Thinking
DAR 112 HS

Sandra Parks
Using Graphic Organizers to Improve Thinking and Learning
STEV 3028 G

Michael Rich
Critical Thinking, Moral Arguments, and Ethical Relativism
STEV 3046 G

Winthrop Holder
Frontiers of Possibilities: Critical Analysis in the 1990's
NICH 173 G, HS, CC

José Ramirez
The Question is: Who Wants Critical Thinkers Around?
STEV 3038 G

Judith Bare
Reeling and Writhing and Fainting in Coils: Nonsense Language and Critical Practice
NICH 204 G

Jack Kirschenbaum, Fred Peters
Which is the Cart and Which is the Horse? Does Content Motivate Critical Thinking or Does Critical Thinking Motivate Content Knowledge?
STEV 3026 G

J. W. Powell
Picking Texts For Their Wrong Answers
STEV 3040 CC, U

Ruth Loring
Thinking Critically about the Teaching/Learning Experience: Motivated Strategies for Learning Questionnaire— A Formative Evaluation Instrument
STEV 3049 U

8:00 - 11:00 **SOCIAL HOURS** **DINING COMMONS (Cafeteria)**

MONDAY, AUGUST 6

8:45 - 10:15 **Vincent Ruggiero**
The Attitude Factor:
A Serious Obstacle to Thinking Instruction
EPT G

Marlys Mayfield
From the Sufis to "The Monkey's Paw."
Readings that Teach Critical Thinking Concepts
DAR 112 HS, CC, U

George Hanford
Teaching Thinking in High School: A Pragmatic Approach
STEV 1002 HS

Angel Villarini, Adelexis Rios Orlandi,
Danny Weil, Richard Paul, Anastasios Marcos
Critical Thinking or Critical Consciousness?
The Social Dimension in the Development of Thinking
ART 108 G

John Chaffee
Critical Literacy and Critical Thinking:
Partners in Education
CH 68 CC, U

Carolyn Sweers
Effective Uses of Dialogue in a Classroom Setting
STEV 2049 K-12

Stephen Brookfield
Using Adults' Experiences to Teach Critical Thinking
STEV 3008 CC, U, G

Kenneth Bumgarner
Effective Techniques for Implementing Thinking
Skills Programs
DAR 139 K-12

George Collison
Computer Programs and Simulations as Arguments in
Evolutionary and Physical Science
STEV 3072 HS, CC, U

Ogden Morse
Literature and Problem Solving:
The Integration of Thinking Skills and Subject Matter
CH 20 HS, CC, U

Priscilla Agnew
Sex, Death, and Advertising: Mastering the Content
DAR 143 G

Monday, August 6

8:45 - 10:15 **Eugenie Scott**
Continued
Critical Thinking in Science and Pseudoscience
DAR 122 **HS, CC, U**

T. Edward Damer
A Code of Conduct for Critical Thinkers
STEV 3046 **G**

Paul Ady
Inquiry Tactics for the Literature Class
NICH 173 **HS, CC, U**

Lesley Coia
The Role of Autobiography in Critical Thinking
STEV 3038 **G**
Theoretically Demanding

Dennis Matthies
Academic Values vs. Intellectual Values
NICH 204 **G**

Joe Edwards
Curriculum Units to Keep Critical Thinking a Top Priority in the School Setting
STEV 3026 **7-12**

Robin Fogarty
Patterns
STEV 3040 **K-12**

Adrian Frana
A View from the Flip Side
STEV 3049 **G, 7-12**

Richard Parker
A Case for Formal Logic
STEV 3028 **CC, U, G**

Donald Hatcher
Critical Thinking in a Post-Modern Age
NICH 166 **U**
Theoretically Demanding

10:30 - 12:00 **Michael Scriven**
Practical Evaluation: The Last Frontier For Informal Logic?
EPT **G**

Marlys Mayfield
A Detour Around the Data Dump or the Critical Thinking/Research Skills Junction
DAR 108 **HS, CC, U**

Lorenz Boehm
Natural Allies: Writing, Teaching, and Critical Thinking
STEV 3049 **G, K-12, CC**

10:30 - 12:00 *Continued*

Robert Swartz, Sandra Parks
Combining Techniques for Direct Instruction in Critical Thinking Skills with the Infusion of Critical Thinking into Content Area Instruction
STEV 1002 K-12

Vincent Ruggiero
Critical Thinking and the Concept of "Truth"
ART 108 HS, CC, U

Richard Paul
How to Foster Critical Thinking Intuitions
CH 68 G

Jan Williamson
Examples from the Classroom: Lessons and Strategies for Teaching Critical Thinking
STEV 2049 K-12

Margaret Hyde
Translating Theory Into Practice: Strategies and Materials for Teaching Higher Order Thinking/Reading Skills
STEV 3008 HS, CC, U

Stephanie Knight, Hersholt Waxman
Direct Instruction for Teaching of Critical Thinking: Adoption, Adaption or Abdication?
DAR 139 HS, CC, University Researchers

Judith Collison
Performance Based Assessment in Secondary Mathematics and Science: Connecticut's Common Core of Learning Assessment
STEV 3072 HS, G

Betty Duffey
If the Socratic Method Can Be Used to Teach Accounting, It Can Be Used in Any Curriculum
CH 20 G

Janita Hoskyn, Edys Quellmalz
It Works: The Multicultural Reading and Thinking Project (MCRAT)
DAR 143 G, E

Vivian Rosenberg
Modifying Traditional Writing Instruction: Strategies to Facilitate Critical Thinking
DAR 122 CC, U

Monday, August 6

10:30 - 12:00 **Chet Meyers**
Continued
Creating Practical Critical Thinking Assignments in All Disciplines
DAR 112 G, U

John Feare
Critical Thinking Across and Beyond the Campus
STEV 3046 G, CC, U

Eugene Garver
Can a Theory of Reasoning Correct Ordinary Thinking?
NICH 173 HS, CC, U
Theoretically Demanding

James O'Connor
Teacher Action Research: Implementing Critical Thinking Via a Critical Approach
STEV 3038 K-12, U, G

Hollibert Phillips
Manner as Matter and Other Matters
STEV 3026 G, CC, U

Warren Shibles
Critical Thinking About Emotion
STEV 3040 G

Noreen Miller
Opening Windows to the World Through Critical Thinking
NICH 166 HS, CC, G

Joel Rudinow
Argument - Appreciation/Argument - Criticism: The "Aesthetics" of Informal Logic
STEV 3030 U
Theoretically Demanding

Rao Tatikonda
Mastering Basics of Production/Operations Management Through Higher Order Thinking Skills
NICH 320 CC, U

LUNCH: (12:00 - 1:30) or (1:30 - 3:00)

12:00 - 1:30 **Dennis Gray**
Socratic Seminar and Educational Reform
CH 68 K–12, G

Richard Mumford
Critical Thinking in American History
DAR 143 HS, CC, U

12:00 - 1:30
Continued

Dennis Rohatyn
Leonardo as a Critical Thinker
STEV 3046 G

Margaret McCabe, Jacqueline Rhoades
Thinking Skills: Can They be Measured? Or How Do You Know If Your Students Are Thinking?
NICH 173 G

1:30 - 3:00

Matthew Lipman
Higher-Order Complex Thinking
EPT G

Nicholas Michelli, Tina Jacobowitz, Wendy Oxman-Michelli, Lisa De Lorenzo
Preparing Pre-Service Teachers for Critical Thinking: A Collaborative Model
DAR 108 G, K-12, CC, U

Richard Paul
Richard Paul's Bag of Tricks
STEV 1002 G

Gerald Nosich
Teaching Thinking and Teaching Content: Lesson Remodeling K-12
DAR 139 K-12

Vincent Ruggiero
Teaching Students to Think About Their Thinking
ART 108 G

Robert Swartz
Assessing the Quality of Student Thinking: Techniques for Classroom Teachers
CH 68 G, K-12

William Dorman
After the Cold War: What Role for Critical Thinking?
STEV 2049 G

George Collison
Ecology Computer Simulations: Tiny Understandings Now Can Prevent Big Problems Later
STEV 3072 JH, HS, CC, U

Monday, August 6

1:30 - 3:00
Continued

Ralph Johnson
Why Do We Reason Poorly?
Psychodynamics vs. Psychologic?
CH 20 CC, U

Olivia Rovinescu, Stanley Nemiroff
Thinking Critically About Moral and Social Issues
DAR 143 CC, U

Norman Unrau
The TASK of Reading and Writing
DAR 122 HS, CC, U

Marilee McGowan
Strategies for Teaching Critical Reading
DAR 112 G, K-12, CC

Donald Hatcher
Critical Thinking and the Liberal Arts
STEV 3046 G

Judy Hirsch
Assessment and Remediation of Cognitive Skills:
Combining the Theories of Freire and Feuerstein, Part I
NICH 173 K-12, CC, U

Laura Lyn Inglis, Peter Steinfeld
Critical Thinking as Revolutionary Act:
Learning to Learn from our Students
STEV 3038 K-12, CC

Maulana Karenga
The Oppositional Logic of Malcom X:
A Critical Examination
NICH 204 G

Patricia Plavcan
Impact of Critical Thinking Instruction in a College-Level Nutrition Course
NICH 166 CC, U

3:15 - 4:45

Michael Scriven
Critical Thinking About Educational Evaluation
EPT G

Joel Lindsey Stafford, Dee Seligman
What Inquiring Minds Want to Know:
An Inservice Workshop for Educators
NICH 204 K-12

3:15 - 4:45
Continued

Angel Villarini
Critical Thinking, Curriculum Revision, and Educational Reform in Puerto Rico
STEV 1002 **G**

Hersholt Waxman, Stephanie Knight, Judith Walker de Felix, Yolanda Padron, Richard Johnson, Sharon Sterchy
Critical Thinking Instruction in Elementary, Middle, and High School Classes
ART 108 **G**

Charles Blatz
The Thinking that Masters the Content:
The Nature and Desirability of Critical Thinking Transfer
CH 68 **G**

Kathleen Tyner
Exploring Re-Presentation: A Cultural Approach
STEV 2049 **K-12, G**

Craig Walton
How to Teach "Reasoning Across the Curriculum"
STEV 3008 **G**

Connie De Capite
Critical Thinking Through Thematic Units
DAR 139 **4-12**

Thomas Jackson
Philosophy for Children and the Thinking Skills that Master Content
STEV 3072 **E**

Mark Weinstein
Entailment
CH 20 **G**
Theoretically Demanding

Priscilla Agnew
Peer Grading: Recognizing Good Critical Thinking
DAR 143 **G**

Richard Wertime
Thinking about the Self as Performer: Making Key Connection between Intelligence and Effectiveness
DAR 122 **HS, CC, U**

Monday, August 6

3:15 - 4:45 **Wendy Oxman-Michelli**
Continued The Many Faces of Critical Thinking
DAR 108 G

Barbara Presseisen, Janice Kruse,
Barbara Smey-Richman
Teaching Thinking in Selected Content Areas:
A Survey of Current Practices
DAR 112 K-12

Warren Shibles
The Metaphorical Method of Critical Thinking
STEV 3046 G

Judy Hirsch
Assessment and Remediation of Cognitive Skills:
Combining the Theories of Freire and Feurstein, Part II
NICH 173 K-12, CC, U

Carol Lynn Knight
Report on the Progress of a Critical Thinking Project
for Social Science Faculty in the Virginia Community
College System
STEV 3038 CC

Gail Kaplan
Critical Thinking in the Classroom:
A Workshop on Developing Critical Thinkers
STEV 3026 K-12, CC, U

David McNeil
Critical Thinking and the Practice of Critical History
STEV 3040 G, CC, U

Yehudi Webster
Are There White and Black People?
Reasoning about Racial Classification
STEV 3049 G

Joel Rudinow
Teaching Critical Thinking and Media Literacy:
The "High Concept"
NICH 166 G, U
Theoretically Demanding

5:30 - 8:00 **BANQUET Dining Commons**

8:00 - 11:00 **SOCIAL HOURS DINING COMMONS (Cafeteria)**

Tuesday, August 7

7:35 - 8:35 **SPECIAL INTEREST GROUPS**

Elementary (K–6)	DAR 143
Middle School (7–8)	DAR 122
High School (9–12)	DAR 112
Critical Thinking Staff Development	CH 68
Community College	STEV 3008
Four-Year College and University	STEV 2049
Critical Thinking in Literature and Language Arts	STEV 3072
Critical Thinking and Psychology	STEV 3046
Critical Thinking in the Arts	ART 108
Critical Thinking in Science and Math	CH 20
Critical Thinking Assessment	STEV 3026
Critical Thinking for the Slow or Disadvantaged Learner	STEV 3038
Learning and Tutorial Centers	STEV 3040
Feminist Education	STEV 3049
Critical Pedagogy	NICH 173
Critical Thinking and Computer Programs	NICH 204
Informal Logic and Reasoning Studies	STEV 3028
Critical Thinking Staff Development and Inservice	STEV 3076
Critical Thinking and Cooperative Learning	STEV 3095
Critical Thinking and Religious Education	CH 10
Critical Thinking and Communication Studies	NICH 166
Critical Thinking and the Law	STEV 3077
Critical Thinking and Nursing Education	DAR 139
Critical thinking and Preservice Education	STEV 3030
Starting Critical Thinking Newsletters	STEV 1002
Critical Thinking for Pre-School Children	NICH 320

Please see description on page A–1

8:45 - 10:15 **Gerald Nosich**

Some Problems in Teaching Critical Thinking in Subject Matter Courses

EPT U

Wendy Oxman-Michelli, Lesley Coia, Princess Towe, Robert Davis, Nicholas Michelli

Project THISTLE (Thinking Skills in Teaching and Learning): A Ten Year Retrospective and A Look to the Future

DAR 108 C, K-12

Perry Weddle

Handling Emotion

STEV 1002 HS, CC, U

Tuesday, August 7

8:45 - 10:15
Continued

John Barell, Tina Jacobowitz
Inviting the thoughtfulness of Young Teachers
(Pre-Service)
ART 108 G

Charles Blatz
The Thinking that Masters the Content:
Organizing for Transfer
CH 68 G

Carolyn Sweers
Helping Students Examine Their Lives:
How to Elicit and Analyze Experiential Information
STEV 2049 K-12, G

Stephen Brookfield
Experiencing Critical Thinking:
Rhythms of Learning in Adult Life
STEV 3008 G, CC, U

John Splaine
Critical Viewing: Stimulant to Critical Thinking
STEV 3072 G

William Martin
Building Thinking Cultures
DAR 112 JH, HS

Robert Dean, Paul Baker
Organizational Strategies for the Successful
Development of a Thinking Skills Program
STEV 3046 G, K-12

Linda Kelly Alkana
Teaching Critical Thinking With Historical Methodology
NICH 173 HS, CC, U

Louis Demos
Shared Inquiry
STEV 3038 G

Lewis Bright
The Toulmin Model as an Approach to Critical Thinking
NICH 204 CC, U

Don Davison
Reverence For Life:Using Dr. Albert Schweitzer's
Ethics In Our Classrooms
STEV 3026 JH, HS, CC, U, G

Les Gottesman, Janice Moulton
Critical Composition for Business Students
STEV 3040 CC, U, G

8:45 - 10:15 **Eleanor Lang, Donna Bodden**
Continued
Critical Conversations: Oral Pre-writing in a
Multi-Disciplinary Composition Classroom
STEV 3049 CC, U

Kathleen Tyner
Trying to make a Dovetail Joint:
Critical Thinking and Media Literacy
STEV 3076 G

Frances Martine, Deanne Quinn
PROBE to Learn
STEV 3028 JH, HS, CC, U

Elementary Education in the 21st Century:
The Role of Critical Thinking
DAR 122 K-6
Please see description in Appendix pages A–2-3

10:30 - 12:00 **Richard Paul**
How to Help Students Develop Intellectual Standards (that
they apply to everyday life)
EPT G

Craig Walton
Critical Thinking and the 1990 NAEP Functional
Literacy Studies
DAR 108 G

Lynne Diaz-Rico
Mental Models from the Media: Thinking Critically About
Teachers' Portrayal in the Movies
STEV 1002 K-12

Angel Villarini, Adalexis Rios Orlandi
Bridging the Gap Between Teaching Thinking and
Content Instruction: The Faculty Enhancement Center
at the University of Puerto Rico
ART 108 CC, U

John Chaffee
Critical and Creative Problem-Solving
CH 68 CC, U

Lenore Langsdorf
Seeing, Talking, Mastering: Stages Along the
Critical Thinking Way
STEV 2049 HS, CC, U

Tuesday, August 7

10:30 - 12:00 **Les Kishler**
Continued
High School Course in Critical Thinking and Independent Studies
STEV 3008 **HS**

Douglas Dibble
The Use of Documentary to Teach Critical Thinking
DAR 139 **HS, CC, U**

Susan Hales
Understanding the Relationship Between Critical Thinking and Self-Esteem, Part I
STEV 3072 **G, U**

Nancy Glock
How to Defend Critical Thinking Requirements Against the Charge of Ethnic or Sexist Bias
CH 20 **CC, U**

John Langrehr
Developing Thinking Strategies Through Metacognition
DAR 143 **G**

T. Edward Damer
Constructing Moral Arguments
STEV 3046 **G**

Constance DeVereaux, Jeanette Catsoulis
The Logic of Crime: Critical Thinking Instruction as a Tool in Rehabilitating Criminal Offenders
NICH 173 **G**

Ross Hunt
How Baker M.S. is Implementing Critical Thinking Skills: A Possible Model?
STEV 3038 **K-12**

Dennis Rothermel, Gregory Tropea
Creating Software for Critical Thinking: A Case Study and Demonstration
STEV 3040 **G**

Patrick Mahaffey
Analyzing Religious Disagreements
NICH 204 **CC, U**

Hobart Swan
Public Education: It's a Bull Market
STEV 3049 **G**

Ricardo Gomez
Problem Solving, Holism, and Critical Thinking
STEV 3026 **G**

10:30 - 12:00 **John Feare**
Continued
Critical Thinking and a Theological Dimension
NICH 166 G, CC, U

Gordon Leon Black
Analyzing Disputes
DAR 112 G

The Middle School in the 21st Century:
The Role of Critical Thinking
DAR 122 G
Please see description in Appendix on pages A–2-3

LUNCH (12:30 - 1:30 or 1:30 - 3:00)

12:00 - 1:30 **Stuart Keeley, M. Neal Browne**
Practical Teaching Strategies Worth Trying: Lessons Learned from 20 Years of Teaching Critical Thinking
STEV 1002 G

Margaret McCabe, Jaqueline Rhoades
Teaching Higher Level Thinking Skills Through Cooperative Learning
CH 68 G

Margaret Dunn, Michael Searson
Effective Critical Thinking Strategies to Enhance Simulations
STEV 3072 HS, CC, U, G

John Hoaglund, Robert Cummings,
Lea Pellett, Dexter Rowell
Argument Analysis and Construction in the Critical Thinking Course
STEV 3046 CC, U

George Luckey, Jr.
Critical Thinking and Faculty Development
NICH 173 CC, U

1:30 - 3:00 **Thomas Jackson, Betsy Moneymaker, Paul Brown, Anne Hedani**
Developing Critical Thinking Hawaiian Style
EPT K-12

Alfred Bork
Using The Computer to Develop Critical Thinking in the Sciences
DAR 108 G

Mark Battersby
Critical Thinking and the Competent Layperson
ART 108 G

1:30 - 3:00
Continued

William Dorman, James Herrick, Yehudi Webster
Mass Media, Education, and Critical Thinking:
Whose Responsibility?
STEV 2049 **G**

Martin Covington, John Esterle
Beyond the Classroom:
Opportunities for Critical Thinking in Informal Settings
STEV 3008 **G**

Susan Hales
Understanding the Relationship Between Critical Thinking and Self-Esteem, Part II
STEV 3072 **G, U**

John Splaine
Critical Viewing: Stimulant to Critical Thinking
CH 20 **G**

Betty Duffey
The Nuts and Bolts of a Program to Integrate Critical Thinking Skills Across a High School Curriculum
DAR 143 **HS, CC**

Dennis Matthies
"Bill Writes a Paper." Critical Thinking and Composition
DAR 112 **G**

Judy Hirsch
Using Critical Thinking for Empowerment
STEV 3046 **G**

Ellen O'Connor
Teaching Critical Thinking to Adult Working Students:
A Conversation, Part I
NICH 173 **G**

Gerald Nosich
Thinking Critically about Explanations
STEV 3038 **4-12, U**

Kyung-Chul Huh
Thinking Ability Development Project in Korea
STEV 3049 **K-12**

Carole Brigham
Nursing Education and Critical Thinking:
Content or Process
NICH 166 **CC, U**

The High School in the 21st Century:
The Role of Critical Thinking
DAR 122 **HS**
Please see description in Appendix on pages A–2-3

3:15 - 4:45 **Perry Weddle**
Steamlining Critical Thinking Pedagogy: Diagrams
STEV 1002 **HS, CC, U**

Mary Prentice, Jerry Guess
Arkansas' Response: Restructuring Schools for Higher-Order Learning
DAR 108 **K–12, G**

Barbara Presseisen
Teaching Thinking In Our Cities: A Focus for the National Urban Alliance
ART 108 **K-12**

Richard Paul
Remodelling the Curriculum
CH 68 **K-12**

Joel Rudinow
Coping With Intersegmental Transfer
STEV 2049 **CC, U**

James O'Connor
Cooperative Learning for Promoting Critical Thinking
STEV 3008 **JH, HS, U**

Craig Walton
Critical Thinking and the Art of Judgment
DAR 139 **G, CC, U**

Judith Collison
Critical Thinking in the Elementary School: Making Sense of the Wealth of Ideas Presented at the Conference
STEV 3072 **E**

Ralph Johnson
On Defining Critical Thinking
CH 20 **G**
Theoretically Demanding

Dennis Rothermel, Gregory Tropea
From Memorization to Mastery: A Design Strategy for Task-Specific Critical Thinking Software
DAR 112 **G**

Ross Danis, Florence Picone
Thinking Incorporated: The Realization of Critical Thinking
DAR 143 **K-12, CC, U**

3:15 - 4:45 *Continued*

Janna Lee Hugo
Helping Our Students "Wish to Learn" Using the Dialogue with Thinking Skills Program
STEV 3046 **K-12, G**

Ellen O'Connor
Teaching Critical Thinking to Adult Working Students: A Conversation, Part II
NICH 173 **G, ADULT EDUCATORS**

Les Gottesman
A Lesson in Moral Reasoning
STEV 3038 **G, CC, U**

Yehudi Webster
Are There White and Black People? Reasoning about Racial Classification
NICH 204 **G**

Rita Manning, Joel Friedman, Anatole Anton, Michael Katz, Barbara Maguire, Glen Mitchell, Wanda Teays
The Role of Philosophy in K-12 Professional Staff Development
STEV 3026 **CC, U**

Alicia Moreyra
The Role of Thinking Frames in Developing Teachers Critical Thinking Skills and Attitudes
STEV 3040 **K-12**

Frances Martine, Deanne Quinn
Future Problem Solving Program
STEV 3028 **G**

Gloria Pierce
Critical Thinking: The Role of Management Education
STEV 3076 **CC, U**

Walter Bobkiewicz
Collaborative Learning Assures Student Sharing
STEV 3049 **G, K-12, CC**

The Community College in the 21st Century: The Role of Critical Thinking
DAR 122 **CC**
Please see description in Appendix on pages A–2-3

8:00 - 11:00 SOCIAL HOURS **DINING COMMONS (Cafeteria)**

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WEDNESDAY, AUGUST 8

8:45 - 10:15 **Thomas Jackson**
The Gentle Socrates
STEV 1002 **E, JH, HS**

Gerald Nosich
Thinking About the Past
CH 68 **G, K-12, U**

Danny Weil
Understanding Social Science Through Multi-Cultural Global Literature: A Critical Thinking Approach to Elementary School Instruction (K-3)
ART 108 **E**

Carolyn Sweers
The Socratic Teacher
STEV 2049 **G**

Nancy Letts, Susan Altman, Gerald Vallone
Creating a Community of Inquiry:
A Fourth-Twelfth Grade Philosophy Partnership
STEV 3008 **G**

Morris Lamb
Infusing Critical Thinking Skills into the Elementary Social Studies: Exemplary Current Practices
STEV 3072 **K-6**

Joanne Kurfiss
Critical Thinking and Cognitive Development in College and Beyond
CH 20 **CC, U**

Lorenz Boehm, Richard Storinger
Balancing Acts:
Administrative Style and Faculty Empowerment—
The Critical Literacy Project at Oakton Community College
DAR 143 **G, Teachers**

Phyllis Berger
Semantic Seduction: Slanted Language and Critical Thinking
STEV 3046 **HS, CC, U**

Stewart Bellman
Mapping Textual Concepts: Claiming Ownership of the Texts We Read
NICH 173 **K-12, CC, U**

Susan Nitzke
An Instrument to Assess Critical Thinking Components in Audiovisual Materials
STEV 3038 **G**

Wednesday, August 8

8:45 - 10:15 **Judith Bank**
Continued
Case Study of Synthesis: Applying Critical Thinking to the Arab-Israeli Conflict
NICH 204 CC, U

Paul Baker
Enabling Administrators to be Critical Thinkers
STEV 3026 K-12, G

Frances Martine, Deanne Quinn
Literature of Prejudice
STEV 3040 G

William Martin
The Bleyl Plan
STEV 3049 JH, HS

The 4-Year Liberal Arts College in the 21st Century: The Role of Critical Thinking
DAR 122 CC, U, G
Please see description in Appendix on pages A–2-3

10:30 - 12:00 **John Barell**
Pathways to Thoughtfulness
STEV 1002 G

Sidney Lester
Metalanguage: The Content of Critical Thinking
ART 108 G

Carol Lynn Knight
Teaching Critical Thinking in the Social Sciences
STEV 3008 HS, CC, U

Nancy Kubasek
Testing Content and Critical Thinking Skills
STEV 3072 CC, U

Mildred Lawson, George Hammersbacher
"Masculine" and "Feminine" Ways of Thinking: Some Pedagogical Implications for the Teaching of Critical Thinking
CH 20 G, CC, U

Don Levi
Rhetoric and Logic
DAR 143 G

Charlotte Danielson, Tra Boxer,
Elaine Eger, Phyllis Levy
Training the Trainer for Higher-Order Thinking
DAR 112 JH, HS

10:30 - 12:00 **David Bernstein**
Continued
A Problem-Solving Interpretation of Arguments
STEV 3046 — CC, U

Marek Bielecki
Artificial Intelligence, Problem Solving,
and Critical Thinking
NICH 173 — G

Ted Kraus
Writing Assignments—Apply Critical Thinking Liberally
To All Moving Parts
STEV 3038 — CC, U

Jim Pollard
What is not Critical Thinking
NICH 204 — HS, CC, U

Jack Butler, Francis McGuire
The Innovative Assessment Ltd.'s Critical Thinking
Evaluation Instrument
STEV 3026 — 4-12

Henry Johnson-Koo
Learning To Think With Pooh
STEV 3040 — G

Pertti V. J. Yli-Luoma
Predictors of Moral Reasoning
NICH 320 — CC, U, G

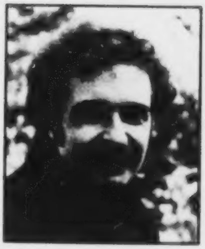
The University in the 21st Century:
The Role of Critical Thinking
DAR 122 — CC, U, G
Please see description in Appendix on pages A–2-3

LUNCH (12:00 - 1:30)

1:30 - 3:00 **WRAP-UP SESSION**

The Conference Wrap-up Session will focus on the question, "Where do we go from here?" and will consist of brief answers to the question from a variety of experts in the field. The audience will be invited to contribute their insights to the discussion. The session will be chaired by Richard Paul.
EPT — G

Presenters' Abstracts



John Barrell
Professor, Montclair State University

Connie Missimer
Author/Consultant

Donald Hatcher
Director, Center for Critical Thinking, Baker University

Ady, Paul E.

Assistant Professor, Assumption College

Inquiry Tactics for the Literature Class

What can a teacher do to get students to generate their own powerful questions about the literary texts they have read? What is a powerful question in literature anyway? Who decides the criteria? How can a meta-cognitive approach to individual acts of reading help students and teachers understand the grounds for their questioning? How can class structure (including the reward system) improve the chances for genuine inquiry?

Working with two texts (one poem and one very short story), this workshop will provide some specific suggestions to encourage students to think — really think — about literature.

Audience: HS, CC, U

MONDAY 8:45 NICH 173

Agnew, Priscilla

Professor, Saddleback Community College

Sex, Death, and Advertising: Mastering the Content

Sex and death images are found in advertising in the form of subliminal messages which are not readily available to us on a conscious level. If we are to engage in the process of critical thinking in order to master the content of these ads, we must become aware of these messages. This presentation will include a slide show which will demonstrate the presence of these messages and we will discuss some techniques for discerning these messages. We will work on some philosophical problems which arise, and shall see that before we can do critical thinking in the strong sense, we must increase our awareness of this material.

Audience: G

MONDAY 8:45 DAR 143

Agnew, Priscilla

Peer Grading: Recognizing Good Critical Thinking

Our students learn the skills and attitudes which are involved in critical thinking. They engage in critical thinking in the strong sense by using these skills to evaluate an argument. The next step is for our students to grade the work of another student: this involves the ability to recognize good critical thinking. This moves the students to a new point on the way to mastering the content, for they will be better able to judge their own critical thinking and will more readily recognize weaknesses in their own thinking.

In this presentation, I shall discuss a grant-supported peer grading project conducted at Saddleback College by Robert Kopfstein and me. I shall discuss the preparation of the students for the project, the actual peer grading project, and the follow-up to this project. Copies of instructions and grading sheets will be available.

Audience: G

MONDAY 3:15 DAR 143

Alkana, Linda Kelly

Lecturer, University of California, Irvine

Teaching Critical Thinking with Historical Methodology

Through both a brief lecture which demonstrates by example the development and use of historical methodology on problems of the past and a participatory workshop which applies these methods to current concerns, this session will demonstrate that the skills needed for judging historical interpretation are critical thinking techniques which can be applied to enrich the understanding of a variety of modern as well as historical texts and problems. With the use of print and visual media, participants will apply the questions and reasoning patterns of the historian (recognizing point of view, questions of power and authority, the selection of evidence, the process of stasis and change, a sensitivity to context, and the search for corroboration and contradiction to verify arguments and events) to the "facts" of the modern world such as popular culture, mainstream news and analysis, and common stereotypes.

Audience: HS, CC, U

TUESDAY 8:45 NICH 173

Baker, Paul

Professor/Author, Illinois State University

Enabling Administrators to be Critical Thinkers

This session is designed to help administrators become reflective practitioners. It will focus on mastering various thinking frames that are capable of interpreting crucial issues of educational policy and practice. Various critical thinking models are presented that allow the administrator to scrutinize parts, relationships, and the whole. These models will enable the administrator to critically examine numerous conflicting prescriptions for educational reform.

Audience: K-12, G

WEDNESDAY 8:45 STEV 3026

Bank, Judith

Instructor, Language Arts, Los Medanos College

Case Study of Synthesis: Applying Critical Thinking to the Arab-Israeli Conflict

In order to understand the Arab-Israeli conflict, one needs to be able to think critically and "fairmindedly." In order to understand how the critical thinking process should work, students *need* to use it. Teaching this content — the Arab-Israeli conflict — induces synthesis. Understanding the content depends upon successfully learning and applying critical thinking and critiquing skills. The desperate nature of the conflict and the emergency of the Palestinian uprising urge the students into learning the process so they can examine or formulate their own position on the issue and, more importantly, understand that the "other" is never separate from the self. There will be handouts and a time for questions.

Audience: CC, U

WEDNESDAY 8:45 NICH 204

Bare, Judith

Reeling and Writhing and Fainting in Coils: Nonsense Language and Critical Practice

When I ask students "How do you read?", I find that they have two ways of reading: for content and for pleasure. The reading method is determined, as they see it, by the fact that there are two types of texts — fact and fiction — and two types of writing — expository and creative. One is work; the other, play. A little probing reveals two characteristics of playful reading and writing: it is engaged in by choice, and it permits entry into an imaginary world which is, in some way, relevant to the student's own experience. Then I ask, "How are you read?" And the answer always is "by the teacher's rules." If I want my students to engage with confidence in Critical Practice, I must change their idea of reading and being read. I suggest to them that instead of working for an arbitrary boss, they are playing a game. My job is to teach them the rules of the game and enable them to become skillful participants in it. I further suggest that the way to change from oppressed workers into agile players is to deconstruct the dichotomies they perceive as readers and writers of texts.

What the use of Nonsense language does is to stand the customary parent/child, teacher/pupil model on its head. Both students and teacher are empowered to question and critique one another's texts and discourses. Using words as playthings, and the structures of language like a Lego set, students can follow a model or engage in experiment, free from dichotomimizing critical and creative, exposition and story. As "Applied Alice", a conservative future physicist explored the role of creativity in scientific discovery. He took as his title a remark by the Red Queen. His paper was entitled "Kepler's Astronomy: Six Impossible Things before Breakfast." Student comments on the course reveal that what they learned was how to read and how to be read. As one student wrote, "I never saw myself as having something to say, but I am now a writer with possibilities."

Audience: G

SUNDAY 3:15 NICH 204

Barell, John

Professor, Montclair State College

Pathways to Thoughtfulness

"Thoughtfulness" is an integration of dispositions and intellectual processes. This session focuses upon metacognitive strategies that empower students to gain more awareness and control of their attitudes and cognitive operations. Participants will engage in thinking aloud (modeling), goal setting, using thinking journals, asking good questions and planning to solve problems. Applications sought at all levels: K–12 and for adult education as well.

Audience: K-12, CC, U

WEDNESDAY 10:30 STEV 1002

Barell, John

Inviting the Thoughtfulness of Young Teachers (Pre-Service)

Co-Presenter:

Jacobowitz, Tina

How can we help student teachers prepare to teach critical thinking in public schools? The presenters, under the auspices of the Institute for Critical Thinking at Montclair State College, have designed and implemented a three credit undergraduate course based upon the following principles: thinking as problem solving; assessing and enhancing intellectual, pedagogical and lesson planning processes; setting and achieving goals; integrating life in and out of school; and continual self-reflection. Presenters will model and engage participants in these processes. Applications to other settings will be discussed in conclusion.

Audience: Pre-Service Teacher Education, CC, U

TUESDAY 8:45 ART 108

Battersby, Mark E.

Professor, Capilano College

Critical Thinking and the Competent Layperson

The goal of critical thinking instruction is to produce people who think and behave in a significantly more reasonable way than they did before receiving the instruction. This change requires knowledge of the norms of rationality, commitment to being rational, and an appropriate base of useable knowledge. What does a critical thinker need to know? She needs to know enough to be a competent consumer of information and expertise in virtually any field; in a phrase, she needs to be a competent layperson.

What content knowledge is required for the competent layperson? The liberal arts can guide us here: music and literature instruction has as its goal, not the training of artists and musicians, but the production of competent "consumers" of works of art. These courses are characteristically described as courses in "appreciation". By analogy, what a competent layperson needs is appreciation of a discipline — a sophisticated comprehension and enjoyment of the enterprise. This should include a broad outline of the discipline's understanding, some examples of more detailed understanding, and comprehension of how the discipline works, how it makes up its mind (or if it doesn't, the various main schools, and their perspectives), and an understanding of how one should and could make up one's mind in this area.

Audience: G

TUESDAY 1:30 ART 108

Bellman, Stewart

Professor, Black Hills State University

Mapping Textual Concepts: Claiming Ownership of the Texts We Read

This program applies to courses in which students must read, comprehend, and remember texts that are difficult and/or ambiguous. Based on mapping concepts presented in Novak and Gowin's *Learning How to Learn* (1984), my program provides an overview of the theory of concept mapping (theory here meaning a way of seeing), illustrates student applications of concept mapping to texts, and offers program participants experience with mapping texts. I will demonstrate that concept mapping is useful in creating as well as in analyzing texts. The critical thinking value of concept mapping lies in the careful and questioning analysis needed to formulate a concept map and in the function of the map as a source of rehearsal and re-creation of original texts.

Audience: K–12, CC, U

WEDNESDAY 8:45 NICH 173

Berger, Phyllis

Professor, Diablo Valley College

Semantic Seduction: Slanted Language and Critical Thinking

Thought and language are inseparable. Language not only reflects our thinking but also shapes it. To reason more critically, students need to become more aware of the role of language in both expressing and influencing thought. This workshop will explore the ways in which language and print media use biased language to hinder the development of independent thinking skills. Participants will have the opportunity to view and analyze numerous examples of slanted language in advertisements and commercials, sales pitches, newspaper editorials, TV talk shows, sitcoms, political rhetoric, and so on. This session is intended especially for those instructors who are introducing critical thinking to high school and college students.

Audience: HS, CC, U

WEDNESDAY 8:45 STEV 3046

Bernstein, David

Professor, Grand Valley State University

A Problem-Solving Interpretation of Arguments

This workshop will introduce a method for using arguments as clues to constructing a position on a controversial issue. Conventional methods of analyzing and evaluating arguments are directed toward assessing the soundness of a given argument with the intent of either rejecting it or certifying it fit for intellectual consumption. However, arguments can also be viewed as tokens of important general issues which any enquirer needs to consider in fashioning a reasoned position. This workshop will present a conceptual framework and companion methodology for extracting the general issues which underlie particular strands of argument. By applying the methodology to arguments supporting competing positions, the enquirer can build a fuller and fairer array of general issues which any proposed position must address. The approach has been used for several years with undergraduate students on a variety of controversies; including whether to regulate pornography, how to explain differences in intelligence, and whether to use animals in research.

Audience: CC, U

WEDNESDAY 10:30 STEV 3046

Bielecki, Marek

Professor, California State University

Artificial Intelligence, Problem Solving, and Critical Thinking

Some highly acclaimed textbooks identify problem solving as an essential element of the content of critical thinking instruction, cf. D. Halpern "Thought and Knowledge". I examine the nature of human problem solving, its simulation by Artificial Intelligence (AI) programs, and the significance of both for teaching critical thinking. The conclusion is that instruction on methods of knowledge representation and problem-solving strategies employed by humans and machines could be profitably included in critical thinking courses.

Audience: G

WEDNESDAY 10:30 NICH 173

Black, Gordon Leon

Instructor, College of the Redwoods

Analyzing Disputes

Disputes may be analyzed as disagreements in factual belief, or in attitude, or as merely verbal, or some combination of these.

Recent editions of Irving Copi's influential *Introduction to Logic* carry forward Charles L. Stevenson's seminal analyses of ethical disputation into critical thinking circles. Teaching this unit in logic and critical thinking courses has given this session's presenter experience in precluding some confusion common to learning this analysis, arising from ambiguities in popular use of the terms 'belief' and 'attitude', and from uncertainty over identification of the relevant points of agreement. First, the concepts of belief and attitude will be distinguished; then identification of agreement and disagreement will be demonstrated in correct priority; then complications by verbal misunderstanding will be exposed. Some exercises from Copi will be examined with a view toward effective classroom presentation. The material is applicable at any level or situation where the analysis of disputes is relevant.

Audience: G

TUESDAY 10:30 DAR 112

Blatz, Charles V.

Chairman, Department of Philosophy, University of Toledo

The Thinking that Masters the Content: The Nature and Desirability of Critical Thinking Transfer

When critical thinking abilities and dispositions are transferred, somehow these come to be used in new contexts by the student showing transfer. What is it for learning and development in critical thinking to transfer or for a student to make such a transfer? At what level of generality or abstraction of reasoning does transfer occur? Does it involve deliberate analytical and constructive metacognition on the part of the student? If so, then where in a student's work might we expect to nurture transfer? What are the possible benefits of transfer in terms of increased learning speed and depth, or its costs in terms of originality and flexibility in critical thinking? Is it worth it? We will take up these questions through general and group discussions. These questions will be approached through examples from primary through post-secondary classes. The discussion will be stimulated through my suggestions of answers to the questions.

Audience: K–U

MONDAY 3:15 CH 68

Blatz, Charles V.

The Thinking That Masters the Content: Organizing for Transfer

Transfer involves critical thinking abilities and dispositions coming into play in new contexts, *in part, through the operation of metacognition* about the appropriateness of reasoning strategies. Thus it is not enough to teach students ways of thinking critically. We must also teach them how to recognize the appropriateness of thinking these ways again, and, we must help them develop the skills and dispositions needed to follow through on this recognition. Here, we shall explore just what sorts of course content, course staffing, curricular inter-relationships, and assessment might be most appropriate for teaching for critical thinking transfer. Inter- as well as intra-disciplinary examples will be discussed from primary, secondary and post-secondary levels. Participants will outline their own courses and will discuss this beginning with others teaching at the same level.

Audience: K–U

TUESDAY 8:45 CH 68

Bobkiewicz, Walter

Professor of Psychology, Oakton Community College

Collaborative Learning Assures Student Sharing

Bring some "class" to your classroom. For the instructor searching for ways to enhance students' abilities to think critically, collaborative learning activities can be helpful and rewarding. This workshop will present a brief overview of a model for planning and implementing classroom activities that invite students to share ideas, recognize and reconcile differences between ideas, and to clearly express newly-formed ideas that are a product of the collaborative process. This is intended to be a hands-on, interactive workshop.

This is the fifth in a series of workshops led by faculty in the Critical Literacy Project at Oakton Community College. Participation in the other workshops is not necessary for participating in this one.

Audience: G, K–12, CC

TUESDAY 3:15 STEV 3049

Boehm, Lorenz

Faculty Coordinator, Oakton Community College

Natural Allies: Writing, Teaching, and Critical Thinking

This will be an active workshop. Participants will try out a number of specific activities which use writing to help students learn, think with, and think about content. We will also examine and discuss ways in which these activities can be used in all disciplines, can even be used to show skeptical colleagues how writing can become a teacher's classroom ally. There will be a variety of handouts modeling writing-across-the-curriculum activities.

This is the third in a series of workshops led by faculty in the Critical Literacy Project (CLP) at Oakton Community College. Participation in the other workshop is not necessary for participating in this one.

Audience: G, K-12, CC

MONDAY 10:30 STEV 3049

Boehm, Lorenz

Balancing Acts: Administrative Style and Faculty Empowerment — the Critical Literacy Project at Oakton Community College

Co-Presenter:

Storinger, Richard L.

Administrative Director, Critical Literacy Project

The now four-year old Critical Literacy Project (CLP) at Oakton Community College is a major success story that reflects a "balancing act" of faculty initiative and administrative encouragement. This session will outline some of the key elements of a hands-off administrative style that encourages faculty creativity, ownership, and accountability, that results in faculty empowerment. The session will also describe the central feature of the CLP — a year-long professional development seminar, designed and taught by Oakton faculty members, in which participants redesign courses and rethink teaching strategies so that, in addition to regular course content, students learn both how to learn and how to think critically.

This is the sixth in a series of workshops led by participants in Oakton's Critical Literacy Project. Participation in the other sessions is not necessary for participating in this one.

Audience: G, Teachers

WEDNESDAY 8:45 DAR 143

Bork, Alfred

Director, Educational Technology Center, University of California, Irvine

Using the Computer to Develop Critical Thinking in the Sciences

The development of critical thinking skills is often done only in selective environments. Very competent teachers, understanding what is involved in developing such skills and typically working with small groups of students, can often be quite effective. But these methods often fail when the attempt is made to reach a wider audience. This problem can be circumvented by the development of highly interactive individualized technology-based learning material.

This paper will discuss a group of programs, the Scientific Reasoning Series which is commercially available and designed to enhance critical thinking in the sciences. These are stand-alone programs, designed to be used with or without teachers, that aim at getting people to use the thinking processes that characterize modern science, including the problem-solving approaches that have been successful in developing scientific theories. Although the materials used are primarily examples from the sciences, the scientific content is not the critical issue. Rather it is the thinking patterns. Some of these programs will be described in detail, the whole series of ten programs will be surveyed.

Audience: G

TUESDAY 1:30 DAR 108

Brigham, Carole J.

Assistant Professor, Ball State University

Nursing Education and Critical Thinking: Content or Process

A discussion of critical thinking, nursing education, the health care information explosion, and participatory learning activities that enhance critical thinking skills in nursing students will occur. Examples of case studies, small group activities, and question-directed discussions that have been used will be shared.

Audience: CC, U

TUESDAY 1:30 NICH 166

Bright, Lewis

Professor, Humboldt State University

The Toulmin Model as an Approach to Critical Thinking

Toulmin's model of argument, proposed in 1958, has not become a spearhead of the revolution in epistemology, as Toulmin once hoped. But one field, Speech Communication, found it highly useful, took it into its fold, and eventually modified it to the point where it appears to be a highly useful tool for critical thinking.

In this panel, Lewis Bright will present the original Toulmin model, consider variations upon it that have developed during the past thirty years, including one of his own, and discuss his idea that a modern, modified Toulmin model of argument might become a middle ground between advocates of formal and informal logic.

Audience: CC, U

TUESDAY 8:45 NICH 204

Brookfield, Stephen

Professor, Teachers College, Columbia University

Experiencing Critical Thinking: Rhythms of Learning in Adult Life

Experiencing critical thinking is a deeply emotive process, involving threat, anxiety, and anger as well as joyful liberation. Critical thinking entails making explicit the assumptions underlying our habitual ways of thinking and acting, and it involves the contemplation of unfamiliar, alternative ways of perceiving situations and behaving within these. Drawing on critical-incident accounts of how learners experience critical thinking, this interactive, conversational presentation will explore the ways in which adults "feel" their way through critical thinking episodes. I will consider typical triggers to thinking in the chief domains of adult life — the arenas of work, community involvements, and intimate relationships — and examine some of the typical rhythms of learning critical thinking, such as incremental fluctuation.

Audience: CC, U, G, Adult Counselors

TUESDAY 8:45 STEV 3008

Brookfield, Stephen

Using Adults' Experiences to Teach Critical Thinking

Adult students bring to educational encounters a variety and intensity of experiences, all of which comprise valuable curricular material for critical thinking. Adulthood is a time in which we discover that the givens we learned in the home, school, and neighborhood do not fit the realities of life. Adults' perceptions of the discrepancies between their learned assumptions and the dilemmas of adulthood (bereavement, divorce, unemployment, geographical mobility) mean that they are frequently at a teachable moment as regards critical thinking. In this interactive, conversational presentation, I present several ways in which teachers of critical thinking can help adults analyze their experiences as a way of becoming more critical. In particular I discuss how teachers can use critical incidents in adult students' own lives as a way of helping adults become aware of their own assumptions.

Audience: CC, U, G, Adult Counselors

MONDAY 8:45 STEV 3008

Browne, M. Neil

Professor, Bowling Green State University

Teaching that Really Matters: Why Critical Thinking Transcends "Content"

The most common concern of educators contemplating the encouragement of critical thinking is, "What content can I afford to give up?" This presentation is designed to stimulate conversation about the following issues:

A. Under what conditions is the alleged conflict between thinking and content a real problem?

B. What does it mean to teach content?

C. To what extent does the focus on content diminish the potential joy and productivity of teaching?

The stimulus for the discussion will be a description of a multiple-instructor experiment in which some students had a teacher and others had no teacher at all. Both groups had identical syllabi and exams. Comparisons of results on multiple-choice (content) items and essay (critical thinking) items have important implications for teaching practice. They suggest what teachers should emphasis in class when they really want their teaching to count.

Audience: G

SUNDAY 10:30 STEV 3008

Bumgarner, Kenneth

Assistant Superintendent, Bethel School District

Effective Techniques for Implementing Thinking Skills Programs

Beginning with successful state-wide conferences in 1985 the teaching of thinking skills has become a high priority for most school districts in the state of Washington. The research-based strategy and techniques for instituting this thinking skills program in the state and in the Bethel School District will be presented. Included will be a brief overview of research on the change process and on what makes staff development programs effective (or ineffective, as the case may be).

Audience: G

MONDAY 8:45 DAR 139

Burke, William F.

Instructor, Department of General Science, University of Hawaii at Manoa

Quarks, Quirks and Quacks: The Use of Pseudoscience in Teaching Scientific Method and Critical Thinking

Many educators would agree that one of the general goals of our educational system is to produce a critically thinking populace. One of the goals of science education, in addition to teaching the content of scientific knowledge, should be to acquaint the student with the nature of science (that is, the philosophical assumptions and methodological approaches employed in generating a scientific paradigm). The analysis of possible pseudosciences (areas of study which couch their work in a seemingly scientific framework but which violate some accepted precepts of scientific inquiry) provides an inherently interesting way to teach toward a scientifically literate and critically thinking citizenry. Through the critical examination of areas such as astrology, parapsychology, UFOlogy, biorhythms, cryptozoology, and others, one can assess both the veracity of the information and claims as well as the alleged scientific nature of the topics. This lecture will discuss how a course could be designed to address these issues at the high school and college levels — topics to examine, sources of information, exercises, etc.

Audience: HS, CC, U, G

SUNDAY 10:30 NICH 204

Butler, Jack

Mentor Teacher, Kent Middle School

The Innovative Assessment Ltd.'s Critical Thinking Evaluation Instrument

Co-Presenters

McGuire, Frances

Mentor Teacher/Lead Teacher, Neil Commins School

The I. A. Critical Thinking Assessment Instrument has been designed for use with students and teachers primarily in grades four through twelve. It was developed to record and analyze student critical thinking in interactive settings which cannot be done in paper and pencil tests. This instrument helps teachers to evaluate and reflect on their own critical thinking teaching strategies.

During our presentation, we will demonstrate how the instrument is used. We will present as a model a videotape of an interactive critical thinking lesson, demonstrate how the observable data is collected using bar-codes and a barcode reader, and show how the assessment data will be displayed and interpreted. This will be followed by an audience participation interactive lesson assessed by the same process.

Audience: 4–12

WEDNESDAY 10:30 STEV 3026

Carter-Wells, JoAnn

Professor of Reading & Coordinator, Undergraduate Reading Program
California State University, Fullerton

Critical Reading as Critical Thinking

This session will address design of college level reading curriculum linking critical reading and critical thinking which meets system-wide instructional criteria/constraints. I will emphasize a historical and theoretical framework; instructional approaches, including writing and collaborative learning; related software use; academic/disciplinary content; and research related to the evaluation of critical thinking and reading. Discussion and workshop format.

Audience: CC, U

SUNDAY 12:00 STEV 1002

Chaffee, John

Professor, Humanities Department, LaGuardia Community College

Practical Strategies for Teaching Critical Thinking in the Disciplines

This session will explore an established program which teaches and reinforces fundamental thinking skills and critical attitudes across the curriculum. This NEH funded program involves an interdisciplinary course in Critical Thinking in which over 800 students enroll annually, as well as a professional development initiative consisting of faculty training and curriculum redesign. In addition to reviewing the theoretical framework and content of the Critical Thinking program, the workshop will emphasize key practical strategies for fostering critical thinking and problem-solving abilities in the disciplines. Participants will examine and engage in a variety of sample activities drawn from diverse disciplines which illustrate these strategies.

Audience: CC, U

SUNDAY 10:30 CH 68

Chaffee, John

Critical Literacy and Critical Thinking: Partners in Education

The development of sophisticated thinking abilities is closely tied to the development of complex language abilities — and vice versa. This workshop will review an NEH funded program in which students enrolled in a Critical Thinking Course linked to reading, writing, and oral communication courses have consistently demonstrated gains in language skills and thinking abilities. Participants will explore the theoretical foundation of this approach, while engaging in a variety of activities which illustrate the integration of critical thinking with critical writing, reading, speaking, and listening.

Audience: CC, U

MONDAY 8:45 CH 68

Chaffee, John

Critical and Creative Problem-Solving

Solving challenging problems effectively involves an integrated set of critical and creative thinking abilities. This workshop will introduce a versatile approach useful for analyzing complex problems in an organized and creative fashion. Individually, and in groups, participants will work through a sequence of diverse problems that will allow them to critically reflect on and discuss the problem-solving process. They will also explore ways of incorporating problem-solving approaches into the courses that they teach.

Audience: G

TUESDAY 10:30 CH 68

Coia, Lesley

Institute for Critical Thinking, Montclair State College

The Role of Autobiography in Critical Thinking

Autobiography, in its concern with issues of self-knowledge, knowledge of others and a person's relation to the world seems ideally suited to the aims of critical thinking. Its use in the classroom, however, raises several questions pertinent to these aims, among which, questions of students' right to privacy and how autobiographies are to be assessed spring most readily to mind.

It will be argued that these and other problems faced by the introduction of autobiography in the classroom may be profitably approached through a consideration of the conception of the person, or self, utilized in autobiography. Presuppositions concerning the self have a bearing on major ideals of critical thinking such as autonomy or intellectual self-sufficiency. It is thus hoped that the approach adopted here will make a contribution to how autobiography can be approached from a critical thinking perspective, and, moreover, point to how certain collaborative strategies adopted in critical thinking can be supported by a conception of the self, consistent with the major ideals of critical thinking.

Audience: G, Theoretically Demanding

MONDAY 8:45 STEV 3038

Collison, George

Computer Coordinator, Holyoke Public Schools

Computer Programs and Simulations as Arguments in Evolutionary and Physical Science

Recent work by Stephen Jay Gould, Richard Dawkins, and other scientists that use computer simulations as an integral part of serious investigations is reviewed and analyzed. The presenter demonstrates programs that Gould and Dawkins used in versions rewritten for a PC environment. This new use of computers poses interesting lines of inquiry for those interested in the study of argumentation, as well as a remarkable new pedagogical tool for the study of evolution and other very complex phenomena. With the computer and simulations such as these as a medium, students can now do "What if" inquiries never possible before. An extensive bibliography of research in this new field as well as "share-ware" simulations will be available.

Audience: HS, CC, U

MONDAY 8:45 STEV 3072

Collison, George

Ecology Computer Simulations: Tiny Understandings Now Can Prevent Big Problems Later

Communicating an understanding of the dynamic quality of macro quantities like population, pollution, and ecological balance poses a major problem for science education. The difficulty is further complicated by the strict dependence of these quantities on micro changes in other quantities that may not be observable,and are probably well out of mind. Computer simulations permit students to explore in a concrete, systematic manner the long term effects that micro changes in some quantities can have on an ecosystem. From these experiences they begin to develop a world view that honestly "looks to the long haul" rather than to the sloganized quick fix, either political or moral. This workshop continues the theme of computer simulations as a form of argumentation. An extensive bibliography of research in this new field as well as "share-ware" simulations will be available.

Audience: JH, HS, CC, U

MONDAY 1:30 STEV 3072

Collison, Judith

Assessment Associate, Bureau of Evaluation and Student Assessment, Connecticut State Department of Education

Performance Based Assessment in Secondary Mathematics and Science: Connecticut's Common Core of Learning Assessment

The Common Core of Learning (CCL) articulates Connecticut's expectations of its high school graduates. It is a statement of student outcomes expected as a result of the K–12 experience. The outcomes include general attitudes and attributes, skills and competencies, and discipline-specific knowledge. Under the sponsorship of a multi-state project funded by the National Science Foundation, for the development of performance based assessment in mathematics and the sciences at the high school level, the CCL assessment team is designing and pilot testing performance tasks aimed at evaluating the goals of the CCL in mathematics and science. The project focuses on critical thinking, creativity, cooperative learning, and transfer in testing. This will be an informational session as well as a workshop on the goals and progress to date of this project.

Audience: HS (Math & Science); G (Assessment)

MONDAY 10:30 STEV 3072

Collison, Judith

Critical Thinking in the Elementary School: Making Sense of the Wealth of Ideas Presented at the Conference

At the conclusion of last year's conference, several teachers expressed frustration at having absorbed a great deal, but having no forum for sorting out ideas absorbed. They felt that it would be useful to devote a session to discussing the ideas, approaches, theories, and applications they were exposed to during the four days of the conference. This session aims to provide such a forum. It is a critical thinking digest for the smorgasbord of ideas at the conference. The hope is that this session will reinforce a sense of community for elementary school teachers interested in creating a community of inquiry in their classrooms.

Audience: K–6
TUESDAY 3:15 STEV 3072

Cook, Jimmie

Dean, School of Education, The University of South Carolina

Leading Middle Grade Children to Participate in Critical Thinking

This participatory workshop will allow attendees to work through a series of activities that have been designed for middle grade children. The very nature of the activities require critical thinking. Ample opportunity will be provided for discussion on the activities which begin at a less challenging level and advance to more complicated thinking skills.

Audience: JH, Teacher Trainer
SUNDAY 1:30 STEV 2049

Costa, Arthur L.

Professor, California State University, Sacramento

What Human Beings Do When They Behave Intelligently and How They Can Become More So

What behaviors are indicative of the efficient, effective problem solver? Just what do human beings do when they behave intelligently? Research in effective thinking and intelligent behavior indicates that there are some identifiable characteristics of effective thinkers. They are not necessarily scientists, artists, mathematicians, or the wealthy who demonstrate these behaviors. These characteristics have been identified in successful mechanics, teachers, entrepreneurs, sales people, parents — people in all walks of life.

In this presentation, a dozen observable characteristics of intelligent behavior will be described. This list is not meant to be complete. As we think and study more about intelligent behavior, we will discover additional indicators of growth in students' thinking abilities.

Audience: G
SUNDAY 10:30 STEV 1002

Costa, Arthur L.

The School as a Home for the Mind

There is a quiet revolution taking place. The team building we hear about in effective schools and classrooms through collaborative learning, participatory decision making, and peer coaching is having a secondary effect: the intellectual empowerment and fulfillment of the individual.

School leaders are heading toward a new state of mind — a new conception of their role and that of the educational institution — from seeking power toward empowering others; from controlling people toward facilitating their creativity; from uniformity of practice toward a collective vision of excellence. As school leaders make this fundamental shift, the school undergoes a radical reorientation. It becomes a home for the mind where the intellects of all its inhabitants are nurtured, mediated, and developed.

Audience: G

SUNDAY 1:30 EPT

Covington, Martin

Project Advisor, The Whitman Institute, University of California

Beyond the Classroom: Opportunities for Critical Thinking in Informal Settings

Co-Presenter:

Esterle, John

Director of Research, The Whitman Institute

People need to think critically if they are to comprehend, plan for, and act effectively in a complex, changing, and interconnected world. School is one place where individuals learn to improve their thinking, but our vision must expand beyond the traditional classroom if our efforts are to reflect the economic, demographic, and technological changes taking place worldwide. What types of informal approaches hold the most promise for enabling people of all ages to think critically about every aspect of their daily lives? Should we create entirely new facilities in the community, such as Think Houses, or perhaps develop programs that tap the unrealized potential of existing institutions — homes, libraries, museums, and community centers? If new approaches are developed and new settings open up, how do we motivate people to use them? These are some of the questions The Whitman Institute is currently exploring through its **Think Ahead** project. In this session we will describe our research on informal learning in relation to critical thinking. We will then invite participants to serve as a focus group on how best to translate what we've learned into practical actions.

Audience: G

TUESDAY 1:30 STEV 3008

Cromwell, Lucy

Professor, Alverno College

Teaching and Assessing Critical Thinking

In a participatory workshop, attendees will examine assumptions regarding the teaching of critical thinking, learn about Alverno College's ability-based approach to teaching thinking, and consider how principles of assessment apply to critical thinking. We will examine the question, "Where does one begin in teaching critical thinking?" and progress through analysis of course planning techniques and assessment strategies for college students in general education and discipline courses.

Audience: CC

SUNDAY 1:30 DAR 122

Damer, T. Edward

Professor/Author, Emory & Henry College

What the Fallacies Can Teach Us about Good Arguments

This workshop will demonstrate how a knowledge of the fallacies commonly found in arguments can inform and guide us toward the construction of good arguments. A fallacy is defined by the workshop leader as a violation of one of the three criteria of a good argument. Special attention will be given to the process of identifying such errors and of finding effective ways of turning poor arguments into better ones. A handout of common fallacies from the workshop leader's *Attacking Faulty Reasoning* will be distributed to workshop participants.

Audience: G

SUNDAY 10:30 STEV 3046

Damer, T. Edward

A Code of Conduct for Critical Thinkers

Much of the focus in the critical thinking movement has been on the construction and evaluation of arguments and on pedagogical techniques. This session, however, will focus upon the rules of behavior that critical thinkers might be reasonably expected to follow in a dialogical context. In other words, the session will propose a code of conduct for engaging in such rational discussion. Both the ethical and the logical dimensions of these rules will be explored.

Audience: G

MONDAY 8:45 STEV 3046

Damer, T. Edward

Constructing Moral Arguments

Most of us have found that it is primarily moral issues that engage our attention and deserve our critical energies. Yet many critical thinking courses give little focus to the peculiar character of moral concepts and the part that they play in the force of arguments designed to persuade us toward moral commitment or action. This workshop will focus upon the important task of formulating clear moral premises. Without such premises many of our arguments not only violate the criteria of good arguments but, more importantly, fail to convince others.

Audience: G

TUESDAY 10:30 STEV 3046

Danielson, Charlotte

Curriculum Specialist, Developer, Educational Testing Service

Training the Trainer for Higher-Order Thinking

Co-Presenters:

Boxer, Tra

Principal, Piedmont Continuation High School

Eger, Elaine

Teacher

Johnson, Paulette

Central Office Administrator, Ravenswood City School District

Levy, Phyllis

Instructor, Educational Testing Service

"The Thinking Framework" is a program developed by the Educational Testing Service (ETS) to enable teachers in grades 7 through 12 to incorporate the teaching of thinking into their regular content instruction. It is a staff development program designed as a "training of trainers" approach. It reflects recent research in cognition and the development of thinking, staff development and organizational change, and the mission and organization of secondary schools.

The presentation will be conducted by the developer and one of the instructors of the program, and by several recent participants. It will consist of a sample hands-on activity from the program, a description of how the training program is organized, and perspectives from several recent participants — a curriculum coordinator, a principal, and a teacher.

Audience: JH, HS

WEDNESDAY 10:30 DAR 112

Danis, Ross

Education Program Specialist
Academy for the Advancement of Teaching and Management
New Jersey State Department of Education

Thinking Incorporated: The Realization of Critical Thinking

Co-Presenter:

Picone, Florence

Education Program Specialist
Academy for the Advancement of Teaching and Management
New Jersey State Department of Education

Knowledge of thinking skills and strategies are most effective when combined with the will to use them. Teachers can also become wellsprings of strategies if they are philosophically predisposed to change the way they approach education. This workshop, developed at the Academy for the Advancement of Teaching and Management, the staff development initiative of the New Jersey Department of Education, owes its success, in part, to teaching content by modeling processes. Participants will be immersed in an experience that will provide an opportunity to reflect on their assumptions relative to the "job" of school. The experience will serve as a powerful catalyst for change by uncovering evidence to facilitate a shift in participant perceptions. This paradigm shift involves approaching school and our lives in a way that will *realize* not proceduralize critical thinking.

Audience: K-12, CC, U, G

TUESDAY 3:15 DAR 143

Davison, Don

Resource Specialist, Terrace Intermediate School

Reverence for Life: Using Dr. Albert Schweitzer's Ethics in Our Classrooms

Dr. Albert Schweitzer decided on the phrase "Reverence For Life", as his philosophy in life. The Great Doctor lived by his deep convictions that all life was very meaningful and sacred, whether found in a highly complex urban society or a sparsely populated jungle village, the wild animals that roam the forests, or the vast oceans that cover our planet. Earth's total environment is included in Dr. Schweitzer's world of ethical responsibility. I believe that our world's future leaders and their teachers need to have the critical thinking skills to have an ethical and responsible life. This presentation is both lecture and participation.

Audience: JH, HS, CC, U, G

TUESDAY 8:45 STEV 3026

Dean, Robert

Principal, Metcalf Laboratory School, Illinois State University

Organizational Strategies for the Successful Development of a Thinking Skills Program

Co-Presenter:

Baker, Paul

This session addresses the task of restructuring the school as a thinking environment for all students. We discuss crucial phases of organizational development that schools must undergo if they are to succeed in generating broad staff commitment to the goals of thoughtful instruction. We present an infusion strategy that begins with a needs assessment of the school and an appraisal of curricular possibilities. The phases of planning, staff development, implementation, peer sharing, and evaluation are also considered. Success depends on school-wide expectations that both students and teachers are committed to the shared opportunities of thinking.

Audience: K-12, G

TUESDAY 8:45 STEV 3046

De Capite, Connie

Critical Thinking, Global Education Curriculum Specialist
Santa Ana Unified School District

The Thinking Writing Connection

In this interactive workshop participants will experience a writing activity through which we will explore the connection between the thinking and writing processes. The use of writing to increase metacognition and evaluation will be emphasized. Student examples at a variety of grade levels will be presented.

Audience: Grade 4-12

SUNDAY 10:30 DAR 139

De Capite, Connie

Using Critical Thinking with Chapter 1 and at Risk Students

This workshop will focus on two specific components. Initially, the presenter will discuss the benefits of using critical thinking skills to help low achieving or ESL students develop language, reading, and writing proficiency. The second part of the workshop will focus on how to develop and implement a language arts program consisting of activities utilizing critical thinking strategies and interdisciplinary materials. Teachers will receive units of study which were originally designed for use with Chapter 1 middle school students. However, the strategies and content are universal in nature so these units could be modified to serve any student.

Audience: Grades 3–12

SUNDAY 3:15 DAR 139

De Capite, Connie

Critical Thinking Through Thematic Units

This workshop explores how to develop a thematic unit through which central concepts are developed, expanded, clarified, reinforced, and connected as you move through a variety of studies and genres of literature. This allows for in-depth, holistic, interdisciplinary study through which critical thinking can flourish. This approach is compatible with the California State Model Curriculum Standards. A sample one-semester thematic unit integrating language arts, social studies and science adaptable for grades 5 through high school, will be presented.

Audience: Grades 5–12.

MONDAY 3:15 DAR 139

Demos, Louis G.

Senior Instructor, The Great Books Foundation

Shared Inquiry

The presentation takes one and a half hours and has two parts. The major part of the workshop will demonstrate the Foundation's method of teaching and learning, called Shared Inquiry, with a forty-five minute discussion of "The Declaration of Independence." Shared Inquiry aims at fostering independent and critical thinking through interpretive reading and discussion of substantial works of literature which the Foundation publishes in paperback editions. By initiating discussion with a question about which she has doubt, through astute listening and questioning, the leader helps each member of the group to formulate his or her own clarified and well-substantiated interpretation and to think critically about other interpretations. The remaining time will be devoted to explanations of the Great Books program and answering participants' questions.

Audience: G

TUESDAY 8:45 STEV 3038

DeVereaux, Constance

Instructor, University of Nevada, Las Vegas

The Logic of Crime: Critical Thinking Instruction as a Tool in Rehabilitating Criminal Offenders

Co-Presenter:

Catsoulis, Jeanette

Instructor, University of Nevada, Las Vegas

Do criminals think differently than everyone else? Or, is criminal behavior primarily the result of environmental and behavioral factors? The correlation between environmental factors and criminal activity has long been accepted. However, recent research recognizes the importance of cognitive processes in mediating the effects of environmental and behavioral factors, thereby influencing the choices a person will make. Studies in cognition and crime find evidence that criminality is the result of a lag in cognitive development. These same studies suggest that rehabilitation which focuses on the criminals ability to make practical judgments — about himself and the world — have a higher degree of success than other types of programs.

Prison programs which stress cognitive skill development teach these skills indirectly, through vocational, therapeutic, or educational means. This session will discuss current research into the viability of a *direct* approach to teaching these same concepts through a course, entitled "Reason and Critical Thinking", designed specifically for a prison population at the Southern Nevada Correctional Center in Jean, NV.

The presentation will include a brief overview of past research, a discussion of curriculum, and will draw comparisons between the student in a prison setting and the student in a "normal" educational setting, based upon results of this research.

Audience: G

TUESDAY 10:30 NICH 173

Diaz-Rico, Lynne T.

Professor, School of Education, California State University, San Bernardino

Mental Models from the Media: Thinking Critically about Teachers' Portrayal in the Movies

Popular fiction depicted the teacher as the lovable Mr. Chips; television brought us the good-natured sidekick of entertaining but misunderstood inner city youth, Mr. Kotter. Recent movies have created heroes of Robin Williams in *Dead Poets' Society* and Edward James Olmos in *Stand and Deliver*. Both movies have stirred aspiring teachers. Inspiring as these role models may be, do they represent healthy idols? What insights about teachers do they convey? Participants in this workshop view segments of these dynamic films and examine the myth and message beneath the teachers who are portrayed. A critical look at the pedagogy promulgated by the media explores what the public believes about teaching, compared to what teaching is and what kind of models teachers can become. Mental models of teacher's roles are mapped and bartered.

Audience: G, Teachers, Teacher Educators, Film Buffs

TUESDAY 10:30 STEV 1002

Dibble, Douglas

Professor of Humanities, Napa Valley College

The Use of Documentary to Teach Critical Thinking

This participatory workshop will explore the use of documentary as a stimulating and provocative pedagogy for presenting ethical issues and critical thinking approaches. I produced and directed the forty-minute documentary *First Strike: Portrait of an Activist*, winner of 18 national and international film and video festival awards, debut selection for KQED's new series *Viewpoints*, nominee for Sonoma State University's sponsored *Project Censored*, and recipient of the prestigious CINE Golden Eagle. It examines the personal story of Susan "Katya" Komisaruk's decision to commit civil disobedience and face a long prison sentence for her act of conscience. The power of this documentary and others as a teaching tool for facilitating critical thinking is in its presentation of real people immersed in real events. The production, acquisition and use of documentaries in the classroom will be discussed fully.

Audience: HS, CC, U

TUESDAY 10:30 DAR 139

Dorman, William

Professor, California State University

Mass Media, Education, and Critical Thinking: Whose Responsibility?

Co-Presenters:

Herrick, James

Assistant Professor, Hope College

Webster, Yehudi

Professor, California State University, Los Angeles

A standard industry response to criticism of shoddy performance by the American mass media has long been the notion that the media are simply giving the people what they want, and that what they want must not be very much, witness what they are getting. A corollary to this circular reasoning is the idea that the people might want more if teachers simply did a better job in the classroom.

What impact on education — formal and informal — do the mass media have? What role should critical thinking play in helping students at all levels to better understand how the media shape their lives? Most importantly, in the context of this workshop, who bears primary responsibility for the level of the media's performance: Industry, schools, or the individual consumer?

Audience: G

TUESDAY 1:30 STEV 2049

Dorman, William

After the Cold War: What Role for Critical Thinking?

Just as the astonishing events of 1989 in Eastern Europe have profoundly changed the world's political landscape and brought an end to the Cold War, so have they compelled us to see world affairs in a fundamentally different way. The force of recent events has left us as much in need of a radically new world view as anyone living through the revolution wrought by Copernicus, ironically enough himself a Pole. Simply put, we can no longer confidently assume that the world rotates around the Soviet Union and the United States.

Now, more than ever, the skills of critical thinking are essential to any classroom at any level that has content dealing with world affairs in general or with the place of the United States in the world in particular. For while the Cold War may be over, what remains is an uncertain peace: War as a system of resolving conflict still prevails; the military-industrial complex remains intact; politicians continue to believe the use of military force will bring electoral success; the potential sources of international conflict, ranging from the ecological to the economic, loom large on the horizon. There simply is no more immediate or crucial task for the teacher of critical thinking in the social sciences than to help students acquire the skills necessary for full citizenship in a multi-polar world.

In this session, I will outline some of the challenges I see in a post-Cold War world, and offer some ideas about why critical thinking has such an important role to play. I will also explore the critical thinking concepts and strategies that seems to me, might be the most useful during this historic period of transition. There will be time for other's to contribute their ideas and suggestions.

Audience: G

MONDAY 1:30 STEV 2049

Downs, Judy Rollins

Assistant Professor, New Mexico State University

Critical Thinking and Collaborative Learning: A Marriage Made in Heaven

What happens to the quality and depth of thinking when people cooperate in groups to learn and achieve? This participatory workshop explores the differences between traditional and cooperative groupings, between the Lone Ranger vs. Think Tank approaches to problem-solving. You will learn about group sociology and discover ways to implement lively group activities that stimulate critical thinking in any setting. You will also explore the differences among individualistic, competitive, and cooperative learning and decide which approach is most appropriate for you.

Audience: G

SUNDAY 10:30 DAR 112

Duffey, Betty
Business Teacher, Maine West High School

If the Socratic Method Can Be Used to Teach Accounting, It Can Be Used in* Any *Curriculum

This session is intended for persons in any discipline at any level who are interested in exploring the Socratic spirit of teaching. Participants will engage, in a non-threatening manner, in solving two or more problems. These problems will be from the Accounting curriculum, but generic in nature, so all adults will be able to relate to them from their life-experiences. After engaging in the problem-solving activities, participants will make inferences as to how the Socratic method of inquiry can be transferred to specific curriculum.

Audience: G
MONDAY 10:30 CH 20

Duffey, Betty

The Nuts and Bolts of a Program to Integrate Critical Thinking Skills Across a High School Curriculum

The staff at Maine West High School, Des Plaines, Illinois (located northwest of Chicago) has developed and implemented a plan to integrate critical thinking, reading, and writing skills — and to increase students' self-esteem. This plan evolved as a part of the school's North Central Association Outcome Accreditation Study and is entering the third year of implementation. The over-all plan will be described, but the emphasis will be on the Critical Thinking component.

Audience: HS, CC
TUESDAY 1:30 DAR 143

Duffey, Betty

Integrating Critical Thinking Skills in Business Courses

Specific classroom strategies for developing critical thinking skills will be introduced and modeled. These practical strategies include paired problem solving, questioning techniques, collaborative activities, and others. Evaluation techniques will also be explored.

Audience: HS, CC, U
SUNDAY 1:30 NICH 166

Dunn, Margaret
Professor, Kean College of New Jersey

Effective Critical Thinking Strategies to Enhance Simulations

Co-Presenter:

Searson, Michael
Director of Freshman Seminar, Kean College of New Jersey

Simulations are an innovative teaching strategy that enable students to master content experientially. However, to insure a level of extended thoughtful response, total simulation experiences require intensive periods of briefing and debriefing. The World Game, a multi-media participatory event created by Buckminster Fuller to increase global understanding, has become a regular event at Kean College. In a pilot program, the World Game has been incorporated with an information processing approach that requires the use of relevant critical thinking strategies, such as questioning techniques and information mapping. Content designed to enhance global awareness was presented through various media. When compared to a control group, students' knowledge of global awareness and their appreciation for the application of a variety of learning strategies were increased. Therefore, this pilot study seems to indicate that full experiential learning relies on a simulation that is complemented by other media, processed through a variety of critical thinking strategies.

This presentation will describe the World Game, examine the various critical thinking strategies that accompanied the process, and share the findings of the pilot study.

Audience: G

TUESDAY 12:00 STEV 3072

Edwards, Joe

Teacher, Social Studies, McKinleyville High School

Curriculum Units to Keep Critical Thinking a Top Priority in the School Setting

This workshop will address ways to to keep critical thinking a priority, despite the distraction of educational fads, both good and bad, and other diversions in school. The premise of this workshop is that critical thinking is, or should be, the cement that binds the curriculum. Specifically, I will explain planning and implementation of curriculum units that cross disciplines with critical thinking as the focal point. Units will deal with themes of caring, courage, and leadership. Departments in the school will plan for three week-long units to be used during the next school year. Teachers in each department will supplement the theme from the framework of their disciplines. I expect this workshop to be about 2/3 information-giving, with pertinent handouts containing details, and 1/3 participatory feedback, recommendations, and suggestions for modification, not only in my school but also in the schools of the participants. As time allows, I will also briefly share other strategies we have used over the last 7 years.

Audience: 7–12, Staff Developers, Curriculum Coordinators

MONDAY 8:45 STEV 3026

Feare, John R.

Director, Center for the Cultivation of Critical Thinking
Grossmont College

Critical Thinking Across and Beyond the Campus

The cultivation of critical thinking, not just across the curriculum, but across and beyond the campus, will be discussed within the conception of critical thinking as a very special, rich mosaic of cognitive, affective, and ethical attributes. The argument will be presented that any thinking which is not some blend of certain knowledge, abilities, attitudes, and values is not critical thinking, e.g., sophistic, algorithmic, and egocentric thinking are uncritical thinking. Ample time will be allowed for discussion.

Audience: G, CC, U

MONDAY 10:30 STEV 3046

Feare, John R.

Critical Thinking and a Theological Dimension

Are critical thinking and spirituality compatible? The argument will be presented, based on the work of Peter Berger and Ernest Becker, that not only are critical thinking and spirituality compatible, but that "full individuality may be liberated only by a fully critical education within a community that lives in and through the most intense religious concern." (Becker) In any case, such "absolutely serious" questions should be raised at all levels of the educational system. Ample time will be allowed for discussion.

Audience: G, CC, U

TUESDAY 10:30 NICH 166

Fogarty, Robin

Director of Training and Development, Illinois Renewal Institute, Inc.

Patterns

In this highly interactive session, participant will discuss teaching *for*, *of*, *with*, and *about* thinking for the K–12 classroom. Bridging the research on cooperative learning and cognitive instruction, motivational and practical strategies are modeled for immediate back-home use with existing subject matter content. The instructional focus is on patterns for thinking that transfer across disciplines and into life situations.

Audience: K–12, Administrators, Staff Developers

MONDAY 8:45 STEV 3040

Frana, Adrian W.

Department of Humanities, Rich East High School

A View from the Flip Side

Students, even those with considerable cognitive abilities, too often view situations or interpret data or ideas from a fixed perspective or mindset. This program, appropriate for educators at all levels, particularly those in the middle or secondary schools, focuses on helping students develop alternate or additional perspectives for applying their thinking skills to situations or proposals. The thrust of the program will be on devising strategies to have students turn to the "flip side" of issues or events to enrich their insight into and understanding of important matters in their learning and development. The concepts of having students think in terms of trade-offs, assigning weights to values, and determining priorities will be central to the discussion. Tested classroom methods will be presented, and attendees will have a hands-on opportunity to participate in the process of developing thinking through varying perspectives.

Audience: G, 7–12

MONDAY 8:45 STEV 3049

Garver, Eugene

McNeely Chair in Critical Thinking, Saint John's University

Critical Thinking and Teaching Classic Texts: Bacon's Essay "On Revenge"

This session will discuss the connections, and tensions, between teaching critical thinking and teaching classic, difficult, original material. Bacon's "On Revenge" is about one page long, so we can all have all of it in front of us throughout the discussion. I simply want to ask, "What abilities and arts does it take to read such a thing with understanding? How do we acquire, and teach, those abilities and arts?"

Audience: HS, CC, U
SUNDAY 12:00 STEV 3072

Garver, Eugene

Can a Theory of Reasoning Correct Ordinary Thinking?

If the sciences didn't tell us things that contradicted ordinary beliefs about the world, what good would they be? But there seems something strange and objectionable about the idea that a science of reasoning might tell us that the way we normally think is wrong. I want to point to a series of examples that seem to point the way to an answer and ask what we should make of them.

Audience: Theoretically Demanding
MONDAY 10:30 NICH 173

Glock, Nancy

How to Defend Critical Thinking Requirements Against the Charge of Ethnic or Sexist Bias

"Critical Thinking" has been challenged as a set of skills and values which reflect primarily dominant and especially "masculine" culture. Emphasis upon it as a general education requirement, a component requirement of other courses, or a focus of state testing or competency has been challenged as yet another instance of ethnic and sexist bias.

This challenge can be treated as a misreading of the substance of the critical thinking movement and/or as an extremist position; nonetheless the substance of this critique merits close attention. The underlying issue is the persistent one of "relativism", and the response requires, first, that the questions traditionally associated with that issue be addressed yet again in this fresh context. But a helpful response cannot stop there; instead, we must seize the opportunity to define with greater precision what instruction in "Critical Thinking" does or can mean, and to carefully justify — rather than simply assume — the value of the effort and its appropriateness as a focus of state prescription and funding.

Such definition and justification can be achieved by putting critical thinking in the larger context of "higher order thinking skills", the move toward a process approach to the teaching of writing and mathematics, the stress on metacognition and collaborative learning, and the sensitivity to alternate learning styles and idiosyncratic and culturally determined cognitive constructs.

Such positioning and the clarifications it presupposes have implications for how we characterize the critical thinking movement, how we teach critical thinking both as a separate subject and across the discipline, how we define "success" as a critical thinker and as an educational goal, and how we assess success.

Audience: CC, U

TUESDAY 10:30 CH 20

Gomez, Ricardo J.

Professor, California State University, Los Angeles

Problem Solving, Holism, and Critical Thinking

I will present a student-centered pedagogy for critical thinking with an emphasis on problem-solving. Accordingly, I will discuss how to organize each class-session, each assignment, and even each paper as a problem-posing and solving activity, carried out mainly by the student under the systematic supervision of the teacher. Some of the main advantages of that approach are these: a) it provides us with a unifying approach to critical thinking that is useful to any college student no matter what is his or her major, b) it can be applied by the students themselves any time they need, c) it can be used by instructors teaching separate courses in critical thinking and by instructors introducing critical thinking issues in a given course (e.g., a sociology course), d) each step in the problem-posing and solving process involves the use of critical skills, e) it helps, through its continuous application, to gradually generate and foster certain fundamental attitudes which are usually linked to critical thinking (e.g., by R. Ennis), and f) in each class session, it gives the students the experience of critical thinking by *doing* critical thinking.

Of course, there are three points to consider: (1) Critical Thinking cannot be identified with problem solving because there are crucial ingredients in critical thinking absent in problem-solving, (2) to center the pedagogy on problem-posing and solving would transform the students into skillful problem-solvers but not necessarily into good critical thinkers, and (3) to relate critical thinking to problem-solving seems to relate it to certain Artificial Intelligence models, like Expert Systems. But, as H. Dreyfus has repeatedly claimed, expert-system models of knowledge-acquisition cannot satisfactorily handle the level of expertise.

On the other hand, I will stress that the problem solving pedagogy should contain some holistic ingredients, like (a) dialogical techniques, and (b) appeal to contextual wholes (social, cultural, ideological) without which any criticism of propositions and arguments would remain unsatisfactory and incomplete. Finally, I will show how the reference to wholes would allow educators, first, to cover the critical aspects that a Kuhnian problem-solver leaves aside, and second, to overcome the limitations that, according to Dreyfus, a problem-solving pedagogy would have.

Audience: G

TUESDAY 10:30 STEV 3026

Goodwin, Andrew

Professor, Department of Broadcast Arts, San Francisco State University

The Logic of MTV

Glimpsed from a distance, and through the lens of an older generation, music video seems to many nothing more than a chaotic, illogical, or a-logical jumble of images – in short, the definitive example of Post-Modernism. But educators need to understand the images their students are internalizing. Viewed more closely, carefully and critically, music video can be seen to conform to familiar models of internal textual organization, for example, to have narrative coherence.

Audience: G

SUNDAY 10:30 DAR 108

Gottesman, Les

Assistant Professor, Golden Gate University

Critical Composition for Business Students

Co-Presenter

Moulton, Janice

Business reports can be epics of constricted thinking and corporate jargon, or Epiphanies of creative expression, critical analysis, and adventurous problem solving. Our students apply business writing formats — case studies, annotated bibliographies, article reviews, field investigative reports, persuasive reports — to social, political, and economic problems. They broaden their critical literacy, social awareness, and thinking skills to include community and global concerns while they are honing the research skills, presentation strategies, and analytic and problem-solving methods which will serve them in business careers. We have been developing this course for eight years, and I will present the writing formats, the critical thinking methodology, a sample of readings, and , I hope a sense of students' enthusiasm for this unique approach to "business" writing.

Audience: U

TUESDAY 8:45 STEV 3040

Gottesman, Les

A Lesson in Moral Reasoning

Moral reasoning is the conscious application of argument forms to matters of judgment, usually regarding behavior. Despite the high ideals students apply in their judgements in simple examples of moral dilemmas, students flounder when asked to *analyze* their moral reasoning. Following are three major obstacles and three effective responses to them that will be discussed:

1.For students to see that their conclusions are the inevitable result of moral premises, i.e., that their reasoning is (usually) deductively valid, the instructor should help students recognize their own general moral principles.

2. To analyze their own everyday moral reasoning, students first have to be shown that they carry moral principles which possess a convenient scope of heuristic generality.

3. Students are always ready to jump into lively debate over conflicting moral principles in a situation, but they lack techniques for systematizing their analysis so that they can bring the debate to a conclusion. In order for students to organize an analysis of a moral dilemma, they need guidelines for a comparative analysis of moral principles, as well as a handy instrument for formatting the analysis.

In this workshop, I will demonstrate a lesson and some exercises that guide students toward a system of moral reasoning.

Audience: G

TUESDAY 3:15 STEV 3038

Gray, Dennis

Director of Seminars, San Diego Seminars, Horace Mann Middle School

Socratic Seminars and Educational Reform

Socratic seminars are a powerful way to engage students in rigorous discussion of important ideas. Seminars provide strenuous practice in close reading, attentive listening, clear speaking, careful thinking, and reasoned debate. I will conduct an impromptu 45-minute seminar with 15 or 20 volunteers from the audience. This is the sort of activity I have done many times with teachers as participants. We'll use a short text — no longer than a single page — as the basis for the conversation. Because the audience may number up to, say, 45 people, I will supply observer checklists to direct attention to the features of the seminar that I want to discuss in the critique that will follow the demonstration seminar. And I will save some time to answer questions.

Audience: G

MONDAY 12:00 CH 68

Hales, Susan

Associate Professor, Saybrook Institute

Understanding the Relationship Between Critical Thinking and Self-Esteem, Part I

In Part I, theory and research in the fields of psychology, sociology, and philosophy are used to show the relationship between critical thinking and self-esteem. Moral integrity is shown to be as important to self-esteem as the more commonly studied components of competence and achievement. Critical thinking is shown to be crucial for self-esteem because it largely determines the degree of our achievements in both the competence and moral domains of self-esteem; it allows autonomous, rational self-evaluation; and it is the mechanism through which individuals can change themselves, their lives, and thus their self-esteem.

Audience: G, U

TUESDAY 10:30 STEV 3072

Hales, Susan

Understanding the Relationship Between Critical Thinking and Self-Esteem, Part II

Part II focuses on the development of self-esteem by identifying the early childhood experiences and parental socialization practices associated with self-esteem, competence, moral behavior, and critical thinking skills. Several currently popular self-esteem enhancement strategies are critically examined in terms of whether they are helpful or harmful to the development of self-esteem.

Audience: G, U

TUESDAY 1:30 STEV 3072

Hanford, George H.

President Emeritus, The College Board

Teaching Thinking in High School: A Pragmatic Approach

Most of the suggestions for teaching critical thinking in high school reflect its roots in the fields of philosophy and psychology. There is, however, another source of ideas. It is the pragmatic wisdom of practicing classroom teachers as shared in the *Rainbow Books* and the new *Thinking Series* of the College Board's Equality project. This session will explore their thoughts about the use of critical thinking as a means of mastering the content. Input from the teaching and learning experiences of others will be encouraged in the discussion.

Audience: HS

MONDAY 8:45 STEV 1002

Hatcher, Donald

Director, Center for Critical Thinking, Baker University

Critical Thinking in a Post-Modern Age

In spite of the popularity of Post-Modernism, I shall argue that post-modern views of human rationality tend to undercut the very notion of critical thinking. Consequently, teachers of critical thinking should spend time showing students the pitfalls and problems that follow from post-modern epistemologies. Much time is spent showing how to argue against post-modern views that tend to relativize knowledge and why the arguments in support of "contextual epistemologies" are flawed.

Audience: U, Theoretically Demanding

MONDAY 8:45 NICH 166

Hatcher, Donald

Critical Thinking and the Liberal Arts

In this session, a panel of faculty from a variety of disciplines will discuss Baker University's new required two-semester freshman sequence that integrates instruction in critical thinking and written composition with the study of primary texts often taught in the humanities: Plato, Bacon, the Bible, Epictetus, and other classic texts. The discussion will focus on issues surrounding faculty development, the politics of course development, problems of trying to integrate instruction in reasoning and writing skills while studying basic texts, and course assessment. Course descriptions and syllabi will be distributed. Because the course was developed through two grants from the Department of Education Fund for the Improvement of Post-Secondary Education (FIPSE), the panel members will make suggestions on ways to attain grants.

Audience: G, CC, U

MONDAY 1:30 STEV 3046

Hirsch, Judy

Educational Therapist and Consultant, Oakland

Assessment and Remediation of Cognitive Skills: Combining the Theories of Freire and Feuerstein Parts I and II

An overwhelming proportion of our nation's students are not being taught to think at school. Furthermore, many are being tested, labeled, and tracked into underachievement. This is especially true of working class people and people of color. This *double workshop* will present a revolutionary way of looking at students which enables them to become powerful learners.

Part I will focus on the *Assessment of Learning Potential*. Theory will be presented as well as case study.

Part II will be devoted to ways of *enhancing cognitive skills*. A participatory lesson will be demonstrated. There will be ample time for questions.

Audience: K-12, CC, U, Special Education Teachers

PART I, MONDAY 1:30 NICH 173

PART II, MONDAY 3:15 NICH 173

Hirsch, Judy

Using Critical Thinking for Empowerment

This workshop will help us find ways of empowering ourselves and our students, so that all of us will look forward to being in our classrooms, rather than feeling alienated or burned-out. It will help us see how we can become better models for our students and our co-workers, and how to set up our learning environments to encourage maximum thinking and fun. We will discuss ways of using critical thinking to foster democracy. We will think about how to have our classrooms reflect humanistic values. We will be sharing what we do that works and figuring out how to make things better. Come if you have questions. Come if you have answers. All are welcome.

Audience: G

TUESDAY 1:30 STEV 3046

Hoaglund, John
Director, Center for Critical Thinking, Christopher Newport College

Critical Thinking Across the College Curriculum

Co-Presenters:

Cummings, Robert
Chair, Department of Leisure Studies & Physical Education
Christopher Newport College

Pellett, Lea
Chair, Department of Sociology & Social Work
Christopher Newport College

Dexter, Rowell
Professor, Department of Economics & Finance, Christopher Newport College

In its second year, the Faculty and Curriculum Development Project at Christopher Newport College is introducing critical thinking into advanced as well as introductory courses in the disciplines. Techniques of critical thinking are further developed as the demands of the different courses are addressed. We report here on efforts to integrate critical thinking in these courses: Introductory Corporate Finance, Venture Capital/Entrepreneurship, Methods of Social Research, Field Instruction in Social Work, and Foundations of Health.

Audience: CC, U
SUNDAY 12:00 STEV 3046

Hoaglund, John

Argument Analysis & Construction in the Critical Thinking Course

Identifying, analyzing, evaluating, and constructing arguments require many of the attitudes and skills important for critical thinking, which is why these activities are central to many critical thinking courses. The focus here is on distinctions that are problematic yet important for an understanding of arguments: implication, inference, argument, and explanation. Their role in the pedagogy of the critical thinking course is also explored. Problems in the concept and teaching of the argumentative essay are also addressed.

Audience: CC, U
TUESDAY 12:00 STEV 3046

Holder, Winthrop
Teacher, Sarah J. Hale High School

Frontiers of Possibilities: Critical Analysis in the 1990's

Enhancing American education and advancing democratic ideals require not only distancing from rote learning and didactic instruction but also an emphasizing of critical thinking and an acceptance of the "self-effacing" teaching model. This participatory workshop will demonstrate how questioning aimed at provoking conflict of opinions not only empowers students by creating a safe enlivened classroom, but also humanizes instruction while fostering a critical disposition. By analyzing a variety of classroom assignments, participants will reflect on their own experiences and explore possibilities to effect a classroom transformation by developing a Critical Analysis Project - with or without institutional support.

Audience: G, HS, CC

SUNDAY 3:15 NICH 173

Hoskyn, Janita

Program Manager: Reading, Arkansas Department of Education

It Works: The Multi-Cultural Reading and Thinking Project (MCRAT)

Co-Presenter:

Quellmalz, Edys

Director, Chapter 1 Technical Assistance Center, Region F,
RMC Research Corporation

This session will describe the impact of the Multi-Cultural Reading and Thinking Project (MCRAT), a program designed to teach thinking strategies directly within the subjects of elementary reading and social studies. The Project is the result of a collaborative effort by Arkansas teachers and Department of Education reading specialists to develop student abilities in critical thinking and global concepts within standard school subjects. Over the last four years, hundreds of students have learned to use systematic strategies in their academic subjects and to transfer the strategies to real situations. The Project emphasizes four fundamental categories of reasoning: analysis, comparison, inference/interpretation, and evaluation. Students also develop metacognitive skills as they talk and write about how they plan, monitor, and evaluate their own problem solving processes. The Project has monitored students' development of thinking strategies with a range of approaches. They go beyond multiple choice testing to include student essays, responses to metacognitive tasks, classroom observations, and teaching logs.

Audience: G, E

MONDAY 10:30 DAR 143

Hugo, Janna Lee

Director, Education Dialogues

Helping Our Students "Wish to Learn" Using the "Dialogue with Thinking Skills Program"

As educators, we *know* that we are supposed to be teaching thinking skills, but have you ever asked yourself, "Where do I find thinking skills?" or "How do they fit into *my* subject area?" Answers to these questions, four workshop activities, and at least six practical ideas you can take back to your classrooms are included in this session. Dialogue with Thinking Skills is a program providing teachers with strategies and techniques for encouraging students to take ownership of their own learning.

Audience: K–12, G

TUESDAY 3:15 STEV 3046

Huh, Kyung-Chul

Head of Instructional Methodology Research Section, Korean Educational Development Institute

Thinking Ability Development Project in Korea

This project is a 6 year long-term project started in 1987 with the goal of developing the thinking abilities of Korean students. In the period of 1987–1990, a theoretical framework was explored, and primary school programs have been developed based on that framework. In 1991–92, middle school and high school programs will be developed with the preparation of audio-visual teaching-learning materials.

The presentation has the following contents: 1) Introduction, 2) Goals and objectives of the project, 3) Contents, 4) theoretical background, 5) procedures of the TAD program, 6) results of the test of the effects of the TAD program, 7) products as of now, and 8) discussion. As a media presentation, video tape and OHP transparencies will be used. After about a 40 minute video presentation and about a 20 minute explanation using OHP transparencies, a 30 minute discussion will follow.

Audience: E, JH, HS, G

TUESDAY 1:30 STEV 3049

Hunt, Ross

Coordinator: Effective Thinking Resources, Washington State University

How Baker M.S. Is Implementing Critical Thinking Skills: A Possible Model?

How are we fitting critical thinking skills into a crowded curriculum and a busy staff agenda? We find key teachers dedicated to including critical thinking skills in their curriculum. We offer an elective or an exploratory in these skills. We plan staff inservice for remodeling lessons plans for critical thinking skills. We plan a critical thinking committee to help scope and sequence skills. I will share practical lessons, the elective course outline, and any problems concerning our progress toward these goals. I will use a participatory dialogue format for presentation.

Audience: K–12

TUESDAY 10:30 STEV 3038

Hyde, Margaret A.

Professor, Evergreen Valley College

Translating Theory into Practice: Strategies and Materials for Teaching Higher-Order Thinking/Reading Skills

This institute will demonstrate how to adapt methods and materials which are clearly grounded in theory and will focus on the fundamental thinking and reading abilities in content areas. The materials presented engage students in the active processes of metacognition, constructing meaning, and strong sense critical thinking. Some materials from the Telecourse in Critical Thinking will be included. A research bibliography will be provided.

Audience: HS, CC, U

MONDAY 10:30 STEV 3008

Inglis, Laura Lyn
Assistant Professor, Buena Vista College

Critical Thinking as Revolutionary Act: Learning to Learn from Our Students

Co-Presenter:
Steinfeld, Peter K.
Adjunct Instructor, Buena Vista College

Critical thinking is inherently revolutionary thinking. Critical thinking challenges and overturns accepted assumptions, transforming the world into an arena of genuine human action, in which the student is called to participate. Revolutionary education requires the breakdown of the authoritarian relationship between teacher and student. Only when students take over the classroom, claiming the educational process for themselves, can they liberate the teacher. Based on Paulo Freire's literacy campaigns in Latin America in the 1960's and 1970's, this session will attempt to think critically about the enterprise of critical thinking itself. The questions to be explored in this session will demand praxis. As educators, our task will be to begin the process of implementing a liberating pedagogy, even now as we begin the process of learning from each other.

Audience: G
MONDAY 1:30 STEV 3038

Jackson, Thomas
Director, Philosophy in the Schools Project, University of Hawaii

Philosophy for Children and the Thinking Skills that Master Content

This presentation will be a hands-on experience with the Philosophy for Children program developed by Matthew Lipman. Participants will be invited into a Community of Inquiry and be shown how the skills which develop in such a Community are precisely those skills need to "master content".

Audience: E
MONDAY 3:15 STEV 3072

Jackson, Thomas

The Gentle Socrates

This presentation will begin with a brief review of what has been understood as "Socratic Method", focusing especially on the "Method" as presented by Richard Paul. It will be suggested that Paul's interpretation as practiced is rather harsh and can be counter-productive in working with students. Participants will then be given a hands-on experience with the "gentle Socrates" by engaging in Socratic Inquiry on the question "What makes you, you?"

Audience: G, K–12, HS, CC, U
WEDNESDAY 8:45 STEV 1002

Jackson, Thomas

Developing Critical Thinking Hawaiian Style

Co-Presenters

Moneymaker, Betsy

State Resource Teacher, State of Hawaii Dept. of Education

Hedani, Anne

Elementary G/T Coordinator, Central District, State of Hawaii D.O.E.

Brown, Paul

G/T Resource Teacher, Guidance & Counselling, Central District State of Hawaii D.O.E.

This session will present the experiences of teachers and university faculty in-Hawaii in developing a State-wide critical thinking task group that was inspired by a visit by Richard Paul to Hawaii in February of 1989. Such "nuts and bolts" issues as organization, funding, finding appropriate times and people, as well as ramifications of the groups' efforts will be discussed. Interaction with the audience will be encouraged.

Audience: K–12

TUESDAY 1:30 EPT

Jerit, Lynda

Professor, Oakton Community College

Training Wheels: Rethinking Teaching and Learning Across Disciplines

Do you ever feel students in your classes are hand-selected for their ineptitude in your field? Are you sometimes baffled in your efforts to help students because you find it hard to imagine anyone not understanding a particular concept or theory? In an era when the knowledge bases and learning styles of students are so different from those of their teachers, one vital aspect of "critical thinking" is our continuing effort to understand how individuals learn.

The emphasis of this workshop will be on re-seeing disciplines in light of their thinking and learning challenges; detecting hidden prerequisite skills in subject matter; designing assignments — including "artificial intelligence" — to teach thinking as well as subject matter; and utilizing the physical resources of the classroom.

This is the second in a series of workshops led by faculty in the Critical Literacy Project at Oakton Community College. Participation in the other workshops is not necessary for participant in this one.

Audience: CC, U,

SUNDAY 3:15 DAR 122

Johnson, Ralph

Professor, University of Windsor

Why Do We Reason Poorly? Psychodynamics vs. Psychologic?

What is the best explanation of the mistakes we make in reasoning? In this session, we shall focus on mistakes that people make in the area of inductive inference (e.g., generalizations, causal reasoning). We will begin by looking at the sorts of tests that empirical psychologists have used in studying such reasoning. After looking at a sampling of these, we will review two sorts of explanation: the explanation given from the viewpoint of psychodynamics is that we reason poorly because we are under the influence of our prejudices and biases; the explanation given from the viewpoint of psychologics is that we reason poorly because we do not know the appropriate cognitive strategy or because we lack essential information. We examine most carefully the explanation given by Nisbett and Ross in *Human Inference* (Prentice-Hall, 1980) that psychodynamic explanations are unsatisfactory.

Audience: G, U

MONDAY 1:30 CH 20

Johnson, Ralph

On Defining Critical Thinking

In this session, I shall critically examine current definitions of critical thinking: those given by Ennis, Paul, McPeck, Siegel, and Lipman. I will argue that the task of defining critical thinking is a serious one whose successful completion requires more than just a well-developed theory of reasoning. I will attempt to demonstrate how the absence of such a theory has been at least partly responsible for both the confusion about defining critical thinking and some of the defects of current definitions.

Audience: G, Theoretically Demanding

TUESDAY 3:15 CH 20

Johnson, Ralph

Thinking Critically About Subliminal Advertising

My students are quite taken by advertising, quite full of opinions about it, and hence they enjoy the unit on advertising in my critical thinking course. I've noticed through the years a particularly strong interest on their part in subliminal advertising — a phenomenon they're quite prepared to accept almost uncritically. They are also fascinated by the idea of backward masking — the supposed encoding of satanic and demonic lyrics on rock records: e.g., the idea that if you play "Stairway to Heaven" backwards, you hear the words "Its my sweet Satan."

In this workshop, we will investigate how the topic of subliminal advertising — if there is such a thing — might be dealt with from the viewpoint of a critical thinker. We will also investigate the issue of backward masking. I will bring putative examples of these phenomena for us to examine.

Audience: G, U

SUNDAY 3:15 STEV 2049

Johnson-Koo, Henry Sioux
Professor, California State University, Long Beach

Learning to Think with Pooh

"How to think with Winnie the Pooh" introduces the problem-solving and decision-making model for integrating the analytic, verbal, and intuitive reasoning skills of the Asian/Pacific and Western strategies of logical thinking. This presentation provides individuals with an opportunity to improve their basic problem thinking skills more effectively in writing, reading, speaking, and listening. It will help individuals become more aware of the nature of the thinking processes which underline the judgments and beliefs people have, and the inferences they draw regarding different subjects and issues. Understanding these processes represents the first step toward becoming aware of *how* one thinks, and how to critically evaluate the end products of one's thinking processes.

Audience: G
WEDNESDAY 10:30 STEV 3040

Kaplan, Gail
Professor, Washington College

Critical Thinking in the Classroom: A Workshop on Developing Critical Thinkers

A crucial determinant of success in the academic setting, as well as the world beyond, is the ability to think critically. An individual must be able to analyze information and come to logical conclusions. In the classroom, games, puzzles, and brain teasers can be used as tools to develop this skill. This workshop will concentrate on actual techniques that have been successful in the classroom. The majority of examples are from mathematics and logic; however, the thought processes involved have applications in every discipline. The activities in the workshop are fun and encourage the development of habits of critical thinking.

Audience: K-12, CC, U
MONDAY 3:15 STEV 3026

Karenga, Maulana
Chair & Associate Professor, California State University, Long Beach

The Oppositional Logic of Malcolm X: A Critical Examination

This paper seeks to delineate and critically discuss Malcolm X's oppositional logic as expressed in his critique of domination. Critique in Malcolm's socio-political thought is pursued in three basic ways. First, it is a persistent search for meaning in history and social reality using what he calls a logic and language of liberation. Second, the critique is pursued as an intellectual assault on established ways of viewing reality in race and class terms. Finally, his critique includes a moral judgment on the social constraints on human freedom, i.e., on the human person's capacity for rational self-determination in community.

These processes involve three main thrusts: 1) to demystify and lay bare the structure and functioning of society and reveal the reality of relations of persons living in and constrained by a given society; 2) to puncture cherished illusions and break down walls of social deception and false consciousness so vital to domination, and; 3) to define and teach human possibility so as to encourage self-conscious efforts to think critically and transform self and society in an ongoing, ever-expanding project of self-realization in freedom and community.

Audience: G
MONDAY 1:30 NICH 204

Keeley, Stuart

Professor, Bowling Green State University

From the Sponge to Panning for Gold in the Social Sciences: Abnormal Psychology as an Example

Generalizations from social science's empirical evidence are often presented by textbooks and teachers as truths to be absorbed, and students are rarely required by their instructors to carefully evaluate and qualify them. These same generalizations are often reported uncritically by the media. Several "classic study" generalizations stated in Abnormal Psychology textbooks and reported in the media will be presented. The audience will critically evaluate the basis of these generalizations, and alternative evaluations will be discussed. Thus, methods will be described for helping students to habitually ask and effectively answer the question, "What conclusion does the evidence warrant?" Sample assignments to facilitate the critical thinking skill of evidence evaluation will also be shared.

Audience: G
SUNDAY 1:30 STEV 3046

Keeley, Stuart

Practical Teaching Strategies Worth Trying: Lessons Learned from 20 Years of Teaching Critical Thinking

Co-Presenter:

Browne, M. Neil

Based on their experience teaching a critical thinking course and their efforts to integrate critical thinking into their courses in economics, law, and psychology, the presenters will provide practical classroom strategies that facilitate the learning of critical thinking, placing special emphasis on overcoming obstacles that prevent students' critical thinking behavior. Teaching tips on text usage, questioning behavior, discussion formats, assignments, and the use of visual aids will be provided. The presenters will involve participants in teaching demonstrations and will solicit questions from participants to identify and address typical problems confronted in first attempting to teach a critical thinking course. The presenters will distribute a packet of materials that will help educators planning to encourage more critical thinking.

Audience: G
TUESDAY 12:00 STEV 1002

Kirschenbaum, Jack

Professor, Fullerton College

Which Is the Cart and Which Is the Horse? Does Content Motivate Critical Thinking or Does Critical Thinking Motivate Content Knowledge?

Co-Presenter:

Peters, Fred

Professor, Fullerton College

Often critical thinking is taught as exercises derived from specific course content or as rules of formal logic rather than as a generalizable skill to be transferred to subject matter across the curriculum and to life events outside of the classroom. In this participatory workshop, alternative examples of critical thinking teaching strategies and student activities will be presented to provide evidence that critical thinking skills can motivate content learning and that content learning can act as a "trigger" to motivate critical thinking. From these student activities, cooperative learning techniques, and teaching methods, selected principles and theories of motivation and transfer of learning will be briefly reviewed and their implications for teaching strategies explored. Examples include content from history, humanities, philosophy, biology, psychology, physics, nutrition, and current events.

Audience: G

SUNDAY 3:15 STEV 3026

Kishler, Les

Teacher, Saratoga High School

High School Course in Critical Thinking and Independent Studies

> "The only thing that kept the class from becoming unbearable was when we didn't have class and I could sleep in."
>
> "I've done a lot of research on this program and compared it with programs of similar intent at other schools. And from that alone I have decided that this is an important and worthwhile course."

The forgoing were written by students in a suburb of Silicon Valley describing a course called Extended Learning Program. This course has been offered several times in the past few years. The presentation will include an exercise in holistic thinking using the 1962 Cuban Missle Crisis. The units on clear thinking, independent studies, and student-led seminars on controversial topics will also be described.

Audience: HS

TUESDAY 10:30 STEV 3008

Knight, Carol Lynn

Professor, Tidewater Community College

Teaching Critical Thinking in the Social Sciences

Many recent studies in higher education have shown that increased emphasis is being placed on the importance of teaching thinking skills. These studies now focus on the discovery of specific techniques that may be used in disciplines to achieve the goal of teaching the subject matter and teaching thinking at the same time. This session will begin by briefly acknowledging the need for and the goals of the critical thinking movement and the challenges to it. It will then proceed to consider the practical business of incorporating thinking skills instruction into the disciplines. It will become an interactive workshop focusing on the following topics:

A. Discipline specific techniques for teaching critical thinking as it applies to argumentation, decision making, and problem solving in introductory social science courses.

B. The problems encountered when incorporating thinking skills instruction into traditional course work and what might be done about them.

C. Recommendations for individual and institutional commitments to teaching critical thinking.

Audience: HS, CC, U

WEDNESDAY 10:30 STEV 3008

Knight, Carol Lynn

Report on the Progress of a Critical Thinking Project for Social Science Faculty in the Virginia Community College System

Last spring, the Chancellor's Commonwealth Professor Program in the Virginia Community College system funded a two-year project to create a manual to help Community College social science faculty in the development of an instructional approach which incorporates thinking skills instruction into their disciplines. The Manual will include information on identifying the critical thinking skills to be taught as they apply to argumentation, problem solving, and decision making, and as they relate to creativity. It will also contain suggestions for approaches to increase instructor proficiency in these skills as well as discipline-specific techniques for incorporating the teaching of thinking into courses including: methods of enriching lectures, demonstrations, presentations, and classroom experiences; improving assignments; selecting textbooks and collateral materials; and developing appropriate testing formats. Finally, it will acknowledge the problems likely to be encountered when incorporating thinking skills instruction into traditional course work and will offer suggestions for dealing with them.

This session will describe the design of the project, summarize the contributions made thus far by social science faculty from seventeen of Virginia's twenty-three community colleges, and solicit comments and suggestions from those attending.

Audience: CC

MONDAY 3:15 STEV 3038

Knight, Stephanie
Assistant Professor, Texas A&M University

Direct Instruction for Teaching Critical Thinking: Adoption, Adaption, or Abdication?

Co-Presenter:

Waxman, Hersholt C.
Associate Dean of Research, University of Houston

During the past 20 years, research on effective teaching behaviors has contributed to the development of an impressive knowledge base to guide classroom instruction. The research-based body of knowledge has evolved into the formulation of a concept called Direct Instruction, which has become almost synonymous with effective teaching. Most of the research which forms the basis of Direct Instruction, however, has involved the examination of teaching practices which contribute to the development of basic, well-defined skills measured by standardized tests of student achievement. Despite this orientation toward basic skills outcomes, many programs of cognitive instruction for higher-level abilities have adopted Direct Instruction as their primary instructional model. Although there have been claims of success for some areas involving complex processes, research studies have shown mixed results for the use of Direct Instruction to improve students' higher-level thinking. This session will review the findings of research studies which investigated the relationship between Direct Instruction and Critical Thinking. In addition, the implications of this research for (a) the use of Direct Instruction to teach Critical Thinking and (b) the development and implementation of alternative instructional strategies to enhance students' critical thinking will be discussed. The format for the session will include presentation, and large and small group discussion.

Audience: HS, CC, University Researchers
MONDAY 10:30 DAR 139

Kraus, Ted M.
Consultant, "Critical Thinking/Writing Seminars"

Writing Assignments — Apply Critical Thinking Liberally to All Moving Parts

This workshop covers how written assignments in all college subjects can intensify the critical thinking process. Participants are invited to bring their own typical writing assignments (class or homework). The workshop will share techniques, experiences, problems, and solutions. Workshop topics include: 1) preparing questions, instructions, time-limits. 2) student preparation on how to incorporate critical thinking in thinking about and in writing the essay answer to specific questions asked 3) applying critical thinking to the marking process. 4) Rewriting via Critical Thinking techniques. 5) Follow-up individual conferences employing critical thinking.

Audience: CC, U
WEDNESDAY 10:30 STEV 3038

Kubasek, Nancy

Associate Professor, Bowling Green State University

Testing Content and Critical Thinking Skills

If we believe that critical thinking skills are as important as content, then our tests should reflect mastery of these skills. Unfortunately, many professors who attempt to teach critical thinking skills still test only for content. This session will focus on how to design tests which will test both content and critical thinking skills.

The first 20 minutes of the session will be a formal presentation. The next 20 minutes will provide the participants with the opportunity to develop some test questions that test both substantive material and critical thinking skills. Their sample questions will be contrasted with typical "content-only" questions. The remaining 5 minutes will be left open for questions.

Audience: CC, U

WEDNESDAY 10:30 STEV 3072

Kully, Robert D.

Professor, California State University

Tools for Analyzing Arguments: Structures, Models, and Diagrams

Co-Presenter:

McKissick, Allan

Professor, Modesto Jr. College

Critical thinking instruction in informal logic and argumentation courses attempts to provide students with a respect for reasoning and knowledge about how to think. In these classes students are expected to examine, analyze, and make judgments about the validity, soundness, and strength of arguments. Although they might learn to appreciate the importance of good reasoning, too often students are not given the tools to make a careful and meaningful analysis of an argument. This workshop will examine the structure of reasoning and tools for analyzing arguments. It will review the classical forms of the syllogism and show how these structures can be applied to an analysis of arguments in everyday, common discourse to test not only validity but soundness. The discussion will include a review of the enthymeme (incomplete argument) and its importance to the study of reasoning. Contemporary diagrams and models for analyzing arguments will also be explored, such as the Toulmin model for diagraming arguments. The last half of the session will provide a demonstration of how to employ these tools in teaching classes in critical thinking and argumentation and an opportunity for the attendees to apply the methods and models.

Audience: G, HS, CC, U

SUNDAY 12:00 CH 68

Kurfiss, Joanne Gainen

Director, Teaching and Learning Center, Santa Clara University

Critical Thinking and Cognitive Development in College and Beyond

"Can colleges teach thinking?" That was the headline of a story published in TIME magazine in February of 1987. Clearly, participants in this conference believe the answer is yes. Yet two developmental psychologists offer conflicting data based on over ten years of longitudinal research on many campuses. The researchers study "reflective judgment", the ways people reason about problems that have no clear right or wrong answer. Their studies show that reflective judgment does not mature until graduate school years. In this session, we will consider relationships between "Critical Thinking" and "Cognitive Development", emphasizing implications for projects to develop undergraduates' critical thinking abilities.

Audience: CC, U

WEDNESDAY 8:45 CH 20

Lamb, Morris L.

Associate Professor, Southern Illinois University

Infusing Critical Thinking Skills into Elementary Social Studies: Exemplary Current Practices

What are the most important critical thinking skills to develop in an elementary social studies program? This session will present the most prevalent examples of lesson plans synthesized or selected from leading elementary social studies texts and journals for infusing critical thinking skills in elementary classrooms. Also, a summary of the critical thinking skills described in six of the most current texts for teaching social studies in the elementary schools will be outlined. A discussion will be undertaken to explore how these published materials enable elementary teachers to meet current state mandates concerning the development of critical thinking skills through the teaching of social studies.

Audience: K–6, Staff Development, Administrators

WEDNESDAY 8:45 STEV 3072

Lappé, Frances Moore

Senior Analyst, Food First

Educating for Citizen Democracy

The "democracy decade" is what George Bush calls the 1990s, as people worldwide risk their lives for the freedom democracy promises. But in too many countries, the institutional forms of democracy co-exist with the actual disenfranchisement of the majority. Oppressive social conditions forestall real participation. Here in the U.S., Americans voice increasing dismay that our democratic processes seem beyond our control.

What makes for genuine democracy — the sharing of power and the accountability of decision makers? An empowered citizenry — people with the capacities to effectively participate in public decision making. But citizens aren't born. We *learn* the concepts and arts of effective public life. What is power as a relational concept? Self-interest as different from selfishness? Public life as an arena of reward as essential as private life? How do we learn listening, constructive controversy, reflection, critical analysis?

As part of a national project — Project Public Life — linking educators, community organizers, librarians, and youth leaders, we at the Institute for Food and Development Policy are looking for educators struggling with these questions — contributing to a new, stronger, more active concept of democracy. I will outline our conceptual framework and some specific tools we are developing to help transform classroom learning of the arts of active citizenship.

Audience: G

SUNDAY 10:30 EPT

Lang, Eleanor

Professor, Southern Connecticut State University

Critical Conversations: Oral Pre-writing in a Multi-Disciplinary Composition Classroom

Co-Presenter:

Bodden, Donna

Adjunct Professor, Southern Connecticut State University

What if students talked to learn, learned to talk, and talked to write? This interdisciplinary approach to the teaching of college composition focuses on oral pre-writing as a requisite for critical thinking and improved writing. Talking before writing empowers the student to discuss ideas, evaluate opinions, and examine perspectives on selected issues.

Our class developed timelines and specific topics on the 1940's, 1950's, and 1960's. Small group discussions and oral presentations augmented the development of critical thinking and lessened the isolation of research as students became their own historians. In addition, the increasing complexity of sequenced assignments built student confidence and composition skills as they wrote their own texts. Copies of course outlines and class materials will be distributed.

Audience: CC, U

TUESDAY 8:45 STEV 3049

Langrehr, John

Senior Lecturer, South Australian College of Adult Education

Developing Thinking Strategies Through Metacognition

We all have partly developed general thinking strategies for solving problems, making decisions, thinking creatively and critically, and so on. Students can be asked to think about the questions, cues, and tactics they already have in their minds as they process information in particular ways. Then, by asking them to share and pool these through talking aloud, numerous refined thinking strategies can be created. A variety of strategies can be identified for every level on Bloom's Taxonomy. A way of developing these strategies will be shared in the workshop. Teachers at all grade levels, and in all subject areas, need to ask more thought provoking questions, at every level of thinking, if students are to develop long lasting, transferable thinking strategies.

Audience: K–Adult

TUESDAY 10:30 DAR 143

Langsdorf, Lenore
Associate Professor, Southern Illinois University

Is "The Conversation of Mankind'" a Narrative or an Argument?

If critical thinking is (a part or aspect of) philosophy, and philosophy is a continuation of the "conversation of mankind" then our assumptions about the genre within which that conversation occurs may tell us something about our assumptions about philosophy and critical thinking as endeavors that seek to "master content". This presentation offers one philosopher's identification of several such assumptions. The format is that of informal talk and discussion, rather than a formal paper.

Audience: Theoretically Demanding
SUNDAY 1:30 NICH 173

Langsdorf, Lenore

Seeing, Talking, Mastering: Stages Along the Critical Thinking Way

Much of our pedagogical effort toward "mastering the content" occurs in the form of talk and reading that strives to develop stronger argumentive skills. However, much of the environment in which our students actually encounter content is performatory and visual. Thus a translation process — from lived experience to verbal content — is needed before we can argue about that content. This presentation traces the process of extracting the content to be mastered from the situation in which it presents itself. The format is one of informal talk mixed with development of examples, rather than the reading of a paper.

Audience: HS, CC, U
TUESDAY 10:30 STEV 2049

Lawson, Mildred
Assistant Professor, King's College

"Masculine" and "Feminine" Ways of Thinking: Some Pedagogical Implications for the Teaching of Critical Thinking

Co-Presenter

Hammerbacher, George
Professor, King's College

Participants in this workshop will examine and discuss examples of both student writing and textbook instruction to discover for themselves those characteristics traditionally identified as "masculine" and "feminine" ways of thinking, but that seem *not* to be gender-related, and probably are more a human continuum than a dichotomy. We will suggest a new vocabulary and a new pedagogy for critical thinking that more effectively address these human variations. We will supply handouts. We hope for lively discussion.

Audience: G, CC, U
WEDNESDAY 10:30 CH 20

Lester, G. Sidney
Instructor, San Jose State University

Metalanguage: The Content of Critical Thinking

Content specific courses versus generic thinking courses is the basis of a raging debate in the field. This debate is based on the premise that critical thinking does not have a content of its own. The presentation will attempt to show that critical thinking has its own content: Metalanguage. Without the ability to use Metalanguage correctly, it is unlikely that students will learn to do critical thinking in any course. Materials used in this presentation are appropriate for secondary (7–12) education. This presentation will be of particular interest to secondary teachers and curriculum designers.

Audience: JH, HS, Curriculum Design
WEDNESDAY 10:30 ART 108

Letts, Nancy
Teacher, Gifted and Talented, Post Road School

Creating a Community of Inquiry: A Fourth–Twelfth Grade Philosophy Partnership

Co-Presenters:

Altman, Susan
Teacher, Social Studies, White Plains High School

Vallone, Gerard
Professor, PACE University

To reduce fragmentation and social isolation of school life and to foster the development of critical thinking skills, White Plains High School students in a senior Philosophy elective became discussion facilitators for a heterogeneous group of fourth grade students. Through the vehicle of children's literature and using the methodology of the Philosophy for Children program, students together considered the meaning of self, freedom, and responsibility. The workshop participants will describe the process which created the program and will engage seminar participants in a model of the program. A videotape will be shown and materials will be distributed.

Audience: All levels
WEDNESDAY 8:45 STEV 3008

Levi, Don
Philosophy Department, University of Oregon

Rhetoric and Logic

Rhetoric has invaluable resources to offer for the critical analysis of argumentation. These resources are ignored and neglected because Plato's arguments against Rhetoric have proven so influential in philosophy and logic. This workshop offers a defense of Rhetoric and shows how much it has to offer in teaching Critical Thinking.

How an argument is defined, what makes it good, and what constitutes a fallacy — these are all questions that are answered differently by thinking of them in terms of Rhetoric. Rhetoric is especially strong in teaching about how to read critically. Identify the arguer's point of view — experience, interests and concerns, and insights; the audience for the argument — what or whom the arguer is responding to; and the issue that divides the arguer from her opposition — the bone of contention. These features of the rhetorical context are critical elements to refer to in giving a reading to an argument.

As critical thinkers we are more than disinterested observers. We engage in argument when we think critically about what we have to say about the argument is itself a contribution to the dialectic from which the argument is taken. These points seem neglected in Logic. They are crucial lessons from the standpoint of Rhetoric. From its point of view, an argument is dynamic, a contribution to a continuing exchange of views in a controversy. The same is true of argument analysis itself. It too is a dynamic process, changing as different versions of the argument are formulated and criticized.

Audience: G

WEDNESDAY 10:30 DAR 143

Lipman, Matthew

Director, Institute for the Advancement of Philosophy for Children,
Professor, Department of Philosophy and Religion, Montclair State College

Higher-Order Complex Thinking

The theme of this presentation is excerpted from the author's *Thinking in Education*, to be published by Cambridge in 1991. In brief, it is argued that the dialogically-related components of higher-order thinking — critical and creative thinking — have many strong similarities, although these are differently organized. Complex thinking, on the other hand, goes beyond content-specific thinking in the disciplines as well as beyond interdisciplinary thinking among the disciplines. It is both of these substantive forms of thinking, but includes methodological or procedural considerations as well. Higher-order complex thinking is shown to be a frequent result of the reliance upon classroom communities of deliberative inquiry.

Audience: G

MONDAY 1:30 EPT

Lipman, Matthew

Philosophical and Non-Philosophical Aspects of Philosophy for Children

Philosophy for Children appears to be a combination of philosophical, pedagogical, literary, psychological, and other components. How are these components to be identified and understood? What is the connection between the philosophy in the program and traditional, academic philosophy? And how can there be a philosophical component without risking ideological indoctrination? The objective of this presentation will be to disassemble these components, examine them separately, and then re-assemble them to show how they work together. This analysis will then be compared with one now being prepared by the BBC. (The one-hour BBC examination of *Philosophy for Children* will be presented in late September, 1990, as part of a series called "The Transformer", on the Cable TV Discovery channel.)

Audience: G

SUNDAY 1:30 STEV 1002

Loring, Ruth M.

Assistant Professor, Cameron University

Thinking Critically about the Teaching/Learning Experience: Motivated Strategies for Learning Questionnaire — A Formative Evaluation Instrument

Professors and students can be put in the role of thinking critically as decision makers if they approach the teaching/learning experience with a clear understanding of expectations within a specific course of study. To facilitate the discovery of these expectations, *Motivated Strategies for Learning Questionnaire* (MSLQ), an instrument developed at the University of Michigan, was used as a formative evaluation instrument on a university campus with professors from four teaching areas: physics, chemistry, political science, and business law.

Based on a Likert scale, the students' and their professor's responses to motivational, cognitive, and resource management decisions were measured. By comparing the professor's expectations of preferred student behaviors to the students' self-reporting of their behaviors, discrepancies in expectations were revealed. In addition, thinking stimulated by the questionnaire was recorded in a reflective writing exercise. After analysis of the data, the results were reported back to the professor and his students. The subsequent discussions have stimulated: (1) new ways of perceiving the course of study, (2) increased openness of communication between the professor and his students, (3) renewed awareness of cognitive processes used in the teaching/learning experience, and (4) an enhanced sense of reciprocal responsibility for critical thinking in the decision making process of the instructional setting.

This session will include a description of the research project, a reporting of tentative conclusions, and a summary of implications for promoting critical thinking within various disciplines at the university level. In addition, the potential for fostering the infusion of critical thinking within faculty development strategies using the MSLQ will be discussed.

Audience: U, Faculty Development

SUNDAY 3:15 STEV 3049

Luckey Jr., George M.

Professor of Philosophy, Morehead State University

Critical Thinking and Faculty Development

During the past five years, a regional state university in Kentucky has placed a major emphasis on faculty development activities focused on the teaching of thinking skills. On-campus workshops have featured nationally-known leaders in the critical thinking movement. Teams of faculty members have attended off-campus conferences. Grant proposals have been written, and faculty members in various disciplines have begun to infuse critical thinking into their courses.

This presentation will describe the specific activities which have prepared faculty to teach for thinking. Successful and unsuccessful strategies will be discussed. Recommendations will be offered for institutions which desire to adopt a similar approach to faculty development. Participants will be invited to describe strategies which have been employed in their institutions.

Audience: U, CC

TUESDAY 12:00 NICH 173

Luckey Jr., George M.

Teaching for Thinking: Classroom-Based Retention Strategies

Many current retention strategies are incorporated in advising and orientation programs directed by administrators. In the future, institutions should consider ways of involving teachers in comprehensive, institution-wide efforts to retain students.

Insufficient cognitive development is one factor which causes students to drop out. This presentation will consider a method for accelerating that development through the teaching of critical thinking skills in student success, study-skills, and introductory general education courses. Values and attitudes necessary for fairminded thinking will also be examined. The presentation will begin with consideration of a critical thinking inventory employed to raise the consciousness of students about critical thinking skills, values, and attitudes. Each session participant will be provided handouts and a ten-page booklet listing major topis of the presentation.

Audience: U, CC, G

SUNDAY 10:30 STEV 3038

Mahaffey, Patrick

Counselor/Lecturer, Counseling & Career Services
University of California, Santa Barbara

Analyzing Religious Disagreements

This presentation will describe and illustrate William Christian's important though neglected method for analyzing religious disagreements. The first section provides a general account of the functions of religious language as context for understanding how religious disagreements arise. The second section defines and explains the relationship between basic proposals and doctrinal proposals in religious discourse as well as the logical structure of religious inquiry. The third section delineates how to identify genuine disagreements between apparently conflicting claims and proposals and applies this method to a variety of specific cases. It also shows how this method may be used as a model for inter-religious dialogue. The format of the presentation will be a lecture demonstration which allows for questions and interaction among participants. Handouts which diagram the cases considered will also be provided. This material is especially useful for courses in the philosophy of religion or comparative religion at the community college or university level.

Audience: CC, U

TUESDAY 10:30 NICH 204

Manning, Rita
Department of Philosophy, San Jose State University

The Role of Philosophy in K–12 Professional Staff Development

Co-Presenters:

Friedman, Joel
Philosophy, U.C. Davis

Katz, Michael
Secondary Education, San Jose State University

Maguire, Barbara
English Department, Rubidoux High School

Mitchell, Glen
English Department, Colton High School

Teays, Wanda
Educator, Mount Saint Mary's

Anton, Anatole
Philosphy, San Francisco State University

Does philosophy have any role to play in teacher education? Critical thinking and moral education come immediately to mind, but don't exhaust the possibilities. In this panel, we will discuss both what philosophy has to offer and the practical and political challenges to philosophy's involvement in K–12 professional staff development.

Audience: G, Teachers
TUESDAY 3:15 STEV 3026

Martin, William C.
Principal, Bleyl Junior High School

The Bleyl Plan

The Bleyl Plan, implemented over a five-year period, is a living, continually changing, eighteen-task blueprint teaching students to think directly while utilizing regular content. The research base of the plan flows from the thinking skills research of Richard Paul, Art Costa, Barry Beyer, and Robert Schwartz. This presentation will detail for participants those practical activities the Bleyl community has utilized to develop and begin implementation of this major reform effort. In open dialogue with participants, the Bleyl staff will share the emotions and power of their work.

Audience: JH, HS
WEDNESDAY 8:45 STEV 3049

Martin, William C.
Principal, Bleyl Junior High School

Building Thinking Cultures

The Bleyl Plan is an eighteen-task blueprint teaching students to think directly while utilizing regular content. This plan flows from the culture-building of the Bleyl community that makes thinking one of the school's driving forces. This presentation will share with participants the research base for building a thinking culture. The culture-building activities that form the base of the Bleyl Plan will be shared in open dialogue with the participants.

Audience: G, JH, HS
TUESDAY 8:45 DAR 112

Martine, Frances E.
Instructor, California State University at Sacramento

Literature of Prejudice

Co-Presenter:
Quinn, Deanne
Instructor, California State University at Sacramento

Fear of the unknown is frequently the basis for prejudice. By examining the lives of authors, their works, and their societies, students gain awareness of the causes and the effects of prejudice which provides a foundation for discussions and writing assignments based on ethical and social issues. Literature for the class begins with the ancient writings and traces the prejudices of each generation through to an examination of the social supports we give to the present-day prejudices we hold. This workshop details a strongly-requested class taught in the Academic Talent Search Program at California State University at Sacramento.

Audience: G
WEDNESDAY 8:45 STEV 3040

Martine, Frances E.

Future Problem Solving Program

Co-Presenter:
Quinn, Deanne

Combining the creative problem solving process developed by Alex Osborn and Sidney Parnes, Dr. E. Paul Torrance launched what has grown to become one of the largest international programs for capable reasoners. Working in teams of four, students analyze a situation that has been projected into the future, identifying an underlying problem for which they will seek solutions. Teams then create criteria by which to evaluate their own answers, complete the evaluation process, and redesign the original situation with the solution in place so as to examine the impact of their work. Students refine their communication skills by working together on real issues that stimulate their creative thinking abilities. This workshop is designed to give participants an overview of the process now used by primary grade students through college and which actually involves student work in the community.

Audience: K through U
TUESDAY 3:15 STEV 3028

Martine, Frances E.

PROBE to Learn

Co-Presenter:

Quinn, Deanne

The first step to reasoning critically is learning how to learn. PROBE involves an investigation of learning and teaching modalities that have been the focus of recent research projects and defines the impact of modalities on teaching styles: how they support student learning as well as how they might impair progress. The program is the basis of a study skills class used as support for children attending the Academic Talent Search program at California State University at Sacramento now in its 9th year and serving 800 students per summer. Working from a knowledge of their own strengths, students design workable time management programs, master flexible reading rates, and implement appropriate note-taking techniques that allow them to take their own learning to higher levels of questioning. The workshop is an overview of the program.

Audience: JH, HS.

TUESDAY 8:45 STEV 3028

Matthies, Dennis

Resident Fellow Cottage, Otero House/Wilbur Hall, Stanford University

Question-Driven Learning

In classroom and textbook exposition, the Original Sin is to give the answer before the student is able to ask the question. First, let's teach students to ask for examples, to ask for definitions, and to ask for analogies or pictures. Let's teach students how to honor and articulate their own legitimate feelings of confusion and unclarity. Let's help students experience first what it feels like to be unclear and then what it feels like to become clear. Above all, let's not steal from students the opportunity for them to learn how to build their own meanings according to their own sense of what gives and what does not give meaningfulness.

Audience: G

SUNDAY 1:30 DAR 143

Matthies, Dennis

Academic Values vs. Intellectual Values

Albert has learned how to budget his time, juggle his priorities, and keep his cool under pressure. He has developed a coping strategy for overcoming procrastination. In fact, he even can make himself do work that is, to him, uninteresting and unimportant. Is Albert a "good student"? In one sense, yes. The problem is this: we have reduced the sphere of the intellectual to the sphere of the efficient and productive. The result: our students don't understand the difference. As teachers, how can we honor academic values and support the student's growth in this realm, while at the same time advocating a different and sometimes incompatible set of intellectual values?

Audience: G

MONDAY 8:45 NICH 204

Matthies, Dennis

"Bill Writes a Paper": Critical Thinking and Composition

Given that a writing instructor might be able to spend no more that two hours teaching critical thinking skills directly, what is the best use of that time? Teaching students how to recognize common fallacies? Teaching students a bit of formal logic? What several concepts and distinctions are the most important to present, and how can they be taught most effectively? Above all, how can the writing instructor teach critical thinking skills indirectly, throughout the quarter? This talk will incorporate graphics projected from a Macintosh computer.

Audience: Language Arts Teachers, G

TUESDAY 1:30 DAR 112

May, John D.

Former Senior Lecturer, Dept. of Government
University of Queensland, Austrailia

Sentential Awareness

This session will be a lecture-workshop on suggestive impact of sentences used in ordinary speech. Much of our thinking is devoted to processing messages. To profit from incoming messages, we must be adept at recognizing their terms. In the case of verbal messages, this requires not only basic literacy, but also sensitivity to the manifold suggestions which emanate from words as used in everyday sentences. The latter units of speech invite receivers to draw inferences which are diverse and, more than occasionally, treacherous. Although many suggestions conveyed by sentential utterances are context-dependent, others occur in regular patterns; and in range they go beyond what can be ascribed to entailment or presupposition. Heightened awareness of verbally invited inferences can enhance judgements of what is true, topical, imminent, intelligible, probable, desirable, practicable, and expedient. The main source of heightened awareness is analysis of cases.

Audience: G

SUNDAY 10:30 STEV 3072

Mayfield, Marlys

Author/English Instructor, Center for Applied Meta-Psychology

From the Sufis to "The Monkey's Paw": Readings that Teach Critical Thinking Concepts

In this workshop, we will approach literature from a non-traditional direction; we will begin with some simple thinking concepts (such as assumptions, facts, inferences, opinions, evaluations, and viewpoint) and examine ten readings which dramatize their meaning. Our objective will be to consider their potential for giving students of critical thinking greater experiential understanding of these terms. We will also see how this approach might offer new tools for literary criticism and evoke new insights on the nature of perception, inference-making, irony, thinking, and destiny.

Audience: HS, CC, U

MONDAY 8:45 DAR 112

Mayfield, Marlys

A Detour Around the Data Dump, Or, The Critical Thinking/Research Skills Junction

To be honest, who doesn't groan at the thought of assigning a research paper? First one has to devise strategies to foil potential plagiarists. Then there's the detecting of the data dumpers, those who would faithfully collect and annotate everything, yet leave the sense-making up to you. And then, despite all precautions, there's that dismal scene on the due date: the petitioners on their knees, the dejected dropouts, and on your desk at least two ungradeable papers written on too broad a topic. Who needs this?

This workshop will suggest what instructors need: some better survival tactics. It offers an approach to teaching research skills that fosters students' self-reliance and puts their thinking — instead of the instructor's — back in charge.

Audience: HS, CC, U

MONDAY 10:30 DAR 108

McCabe, Margaret E.

Educational Consultant, Writer, Willits, CA

Teaching Higher Level Thinking Skills Through Cooperative Learning

Co-Presenter:

Rhoades, Jacqueline

Resource Specialist, Fontana Unified School District

Is it time to think yet? Devoting a special time of the school day to thinking skills activities may be valuable, but incorporating thinking skills into the daily routine of content instruction may be more important. Why? Because we don't think in a vacuum; we think about content-related issues. If we are going to help our students to really think, we cannot isolate thinking from the rest of the instructional day. Our students need to have the opportunity to think about their thinking process and to share their thoughts with others, thereby gaining new ideas about how to think. Simple Cooperation techniques (a model of Cooperative Learning) inherently support the development of thinking skills in any curriculum area. However, these activities can be structured in ways to purposefully develop higher level thinking skills. Metacognition, mediation, and internal dialogue will be discussed. This program draws upon Michenbaum's and Feuerstein's work as well as the presenters' experiences to provide teachers with practical, easy-to use ideas and activities to use in their classrooms right away. Participants will discover how easy it is to include higher level thinking experiences in their lessons by practicing the processes during the session.

Audience: *All levels*

TUESDAY 12:00 CH 68

McCabe, Margaret E.

Thinking Skills: Can They be Measured? or, How Do You Know If Your Students Are Thinking?

Co-Presenter:

Rhoades, Jacqueline

The current emphasis on higher-order thinking skills will soon require educators to be accountable for how well the schools are teaching thinking skills. Very likely, this, in turn, will result in a flood of new "thinking skills tests", many of which will be based on multiple choice items. Tests inherently assume right and wrong answers, and worse, how a student of a particular grade and age should respond. Imagine being tested for how well you think on a specific day at a specific time! The speakers contend that a person's best thinking does not occur on demand, rather, it happens at odd times, at unexpected times. There may be a way, however, to assess thinking skills without a test. This participatory, interactive session will explore an alternative that has the potential to be more valid than a test. Practical, easy-to-use ideas for the classroom will be demonstrated.

Audience: K–U

MONDAY 12:00 NICH 173

McGowan, Marilee

Assistant Professor, Oakton Community College

Strategies for Teaching Critical Reading

There are two primary ways in which students encounter the information about which we wish them to think critically; reading assigned materials and listening to lectures and class discussions. This workshop will describe some very practical strategies teachers can use to increase the ability of their students to comprehend the reading materials we assign, all with an eye toward helping them become critical instead of passive and uncritical readers. This will be a hands-on, interactive workshop.

This is the fourth in a series of workshops led by faculty in the Critical Literacy Project at Oakton Community College. Participation in the other workshops is not necessary for participating in this one.

Audience: G, K–12, CC

MONDAY 1:30 DAR 112

McNeil, David

Professor, San Jose State University

Critical Thinking and the Practice of Critical History

The San Jose campus was influential in formulating the California State University's Critical Thinking requirement for General Education, and early on we developed a history course to meet the requirement. The "logic" of history is certainly informal, since historians engage in practical reasoning. The domain of history is ideal for students to explore cultural and ideological commitments (or premises) and their consequences, as well as "causation" in human affairs. History courses, especially if they are well conceived and delivered, are ideal vehicles for developing "truly critical" critical thinking classes. Various approaches are taken by our teachers of the "Historical Process: Critical Thinking" course, but some are probably better than others. Our growing commitment to recognizing and working with multi-cultural and diverse ethnic perspectives affords a special opportunity for expanded service to the general education mission of the University, which ultimately must be conceived as emancipatory.

Audience: G, CC, U
MONDAY 3:15 STEV 3040

Meyers, Chet

Professor, Metropolitan State University

Creating Practical Critical Thinking Assignments in All Disciplines

This is a repeat of last year's popular workshop. The starting point for good critical thinking assignments is to assure clarity of our specific teaching objectives. As part of this participatory workshop, we will explore criteria that promote high quality, developmentally sound classroom exercises and assignments. We will discuss some of the inescapable difficulties involved in designing and grading critical thinking assignments.

A creative process of visualization will be used as a means for clarifying critical thinking objectives before moving on to consider some practical assignments: using media — television, newspapers, cartoons, advertisements, etc.; creating short problem-solving exercises; and developing practical assignments outside of the classroom. Participants will be encouraged to share with each other some of their own ideas for student papers and projects. By the end of the workshop we will have in hand a list of practical criteria to share with our colleagues back home and some helpful ideas for improving the quality of our own student assignments.

Audience: G, HS, CC, U
MONDAY 10:30 DAR 112

Michelli, Nicholas M.

Dean, School of Professional Studies, Montclair State College

The THORP Game: A Simulation of the Effects of Teaching for Thinking

Co-Presenters:

Oxman-Michelli, Wendy

Director, Institute for Critical Thinking and Project THISTLE: Thinking Skills in Teaching and Learning, Montclair State College

Towe, Princess

English Teacher, Malcolm X. Shabazz High School

Davis, Robert

Social Studies Teacher, Malcolm X. Shabazz High School

The THORP game is a simulation that provides a vehicle for a comparison of the effects of different teaching methodology using the same course content. In the game, participants get an education, get a job, and go to work. The game, favorably reviewed in *Simulation and Gaming News*, has been used with high school students, undergraduate, and graduate students, and in inservice workshops for teachers to illustrate the effects of teaching for thinking. The audience will participate in the simulation and leave with materials needed to use the game in their own work.

Audience: G, E, HS, CC, U

SUNDAY 1:30 STEV 3008

Michelli, Nicholas M.

Preparing Pre-Service Teachers for Critical Thinking: A Collaborative Model

Co-Presenters:

Oxman-Michelli, Wendy

Jacobowitz, Tina

DeLorenzo, Lisa

Assistant Professor of Music, Montclair State College

In addition to giving an overview of the Montclair State College Model for infusing the teaching of critical thinking into the teacher education program, the session will discuss the kinds of collaboration needed for success. Collaboration between the college and the public schools and collaboration between college faculty generalists and subject matter specialists should take place. An example of an effort to coordinate a general critical thinking course and a course in the methods of teaching music will be presented and analyzed. Included will be discussion of the issues and problems that tie the courses together, such as: What is problematic in music? How do creativity and critical thinking mesh? What does lesson planning for critical thinking look like? What aspects of music curriculum do not lend themselves to critical thinking? How can collaboration be extended to other disciplines? Audience participation in the discussion and opportunities for questioning will be provided.

Audience: K–12, CC, U, G

MONDAY 1:30 DAR 108

Minkler, Doug

Coordinator & Instructor, Berkeley, CA 94703

Art and Social Change

Censored, sued, fired, and still inspired. Changing society requires critical thinking but without its activist aspect critical thinking is destined to remain a sterile academic exercise. Come hear how my students and I use critical thinking in an activist sense. I will describe our censored art show at the state capital and the law suit brought against me by the tobacco industry. Billboard altering and a new 4 year degree program in art and social change will be part of the presentation. Let's brainstorm on how to take our projects out of the classroom and give them a vital role in shaping society.

Audience: G

SUNDAY 12:00 ART 108

Miller, Noreen

Gifted and Talented Resource Liaison, Adams County — Five Star School
Boulder, Colorado

Opening Windows to the World Through Critical Thinking

To prepare students for 2001, not 1950, we need to do a paradigm shift. The world political and economic situation is changing. This session focuses on how to teach for change using visuals which illustrate specific strategies. The second emphasis of this session will be the manipulation of interdisciplinary content using specific strategies. Some strategies are more difficult to teach and suggest an order for instruction. If we connect a specific strategy to a content area, such as global awareness or international relations, then we stand a better chance of achieving intellectual and emotional growth required in change. For example, future world leaders will need to think with reciprocity when dealing with economics on a global scale. Managed trade through negotiation is different than economics through conflict and power. Ms. Miller is an experienced staff developer and consultant for the Colorado Department of Education.

Audience: HS, CC, G

MONDAY 10:30 NICH 166

Missimer, Connie

Author, Consultant, Seattle, WA

A Simple, Elegant, Natural Means to Master Content: By Theories

As you study this abstract and compare it to other presentations offered at this time to decide which one you'd like to attend, you are theorizing. In doing so, you are naturally mastering the content suggested in the abstracts, viewing it as evidence for or against your decision to attend a particular talk. It is this simple, natural means of mastering content which is at the heart of critical thinking (or so I would theorize). All rational judgments must come through consideration of alternative theories, i.e., Paul's notion of "dialogical reasoning." It's lucky that critical thinking is also the best mnemonic device! Students need to know this and learn to think theoretically. In this session, I will offer a schema for the theory and give a number of examples to illustrate progress through theoretical-critical thinking, as well as point out pitfalls encountered when one doesn't think this way.

Audience: G

SUNDAY 10:30 CH 20

Moreyra, Alicia

University of Miami

The Role of Thinking Frames in Developing Teachers' Critical Thinking Skills and Attitudes.

This session will reflect on the problem that the complex thought processes of teachers as adult learners have not been explored. Teachers must be made aware of their thinking frames as adult learners. These thinking frames, which are representations intended to guide one's process of thought — supporting, organizing, and catalyzing that process — are often only implicitly and tacitly held by teachers. In order to think and act more critically, teachers have to be able to make explicit descriptions of their cognitive frames of reference as learners. This session will explore the new paradigm of the teacher as an adult learner; present models of thinking frames designed to induce reflective action; and discuss alternate methods for evaluating teacher's cognitive development.

Audience: K–12

TUESDAY 3:15 STEV 3040

Morse, Ogden

Chair, English Department, Joel Barlow High School

Literature and Problem Solving:
The Integration of Thinking Skills and Subject Matter

Students reading works of fiction recognize that the characters struggle to find solutions to complex problems. But students fail to recognize any application of the text and its problems to their own lives. The purpose of this workshop is to demonstrate how a specific literary work can be used to teach the application of higher-order reasoning to problems by using the text, communication and collaborative skills, and student creativity. What is a problem? Is there a process which will help to solve problems? Do the problems of literature still exist today? During the workshops, participants will become members of a class working with these questions, and will engage in typical classroom activities that demonstrate the integration of many thinking and communication skills. There will be handouts containing a model lesson plan, sample worksheets, and examples of student work. There will also be a demonstration video of a culminating activity from a senior high school class.

Audience: HS, CC, U

MONDAY 8:45 CH 20

Morse, Ogden

Points of View:
The Application of Thinking Skills to Subject Matter

Every subject matter teacher faces the same dilemma: too much material, too many skills, too little time. This workshop is designed to suggest some practical methods by which teachers can integrate critical thinking skills with subject matter to produce a variety of student responses. Participants will be actively involved in the processes of a classroom as they work through a series of exercises, noting the methods employed and the cognitive skills required. There will be a handout containing excerpts from research, a theoretical learning model, a lesson plan, excerpts from student papers. And the group will view a videotape, the final project of a senior high school class.

Audience: HS, CC, U

SUNDAY 10:30 NICH 173

Mumford, Richard L.
Professor of History, Elizabethtown College

Critical Thinking in American History

I will demonstrate and involve the audience in several critical thinking strategies (I divide these into analytical and reflective thinking) using the content of United States history. The audience will be asked to participate in the process of critical thinking and evaluate the results. Many, but not all, of the strategies are those used in my recent publication, *An American History Primer* (HBJ — 1990). I will explain and answer questions about this approach of teaching US history through the process of critical thinking. Although the design of strategies assumes a college classroom, the concepts of teaching could easily be applied at all levels of teaching.

Audience: HS, CC, U

MONDAY 12:00 DAR 143

Nitzke, Susan
Dept. Of Nutritional Sciences, University of Wisconsin-Madison

An Instrument to Assess Critical Thinking Components in Audiovisual Materials

An instrument was developed to assess critical thinking components in audiovisual instructional materials for high school and adult audiences. The instrument includes 29 items that address either critical thinking components implicit in the audiovisual's style of presentation, or promotion of critical thinking skills among viewers. The instrument gives ratings based on metacognitive skills, performance components, knowledge-acquisition components, and critical thinking dispositions. Validity was evaluated with a panel of nine experts in critical thinking and home economics; reliability measures were gathered from a panel of nine nutrition educators. The instrument was used to evaluate a collection of 13 audiovisual materials on nutrition and osteoporosis. Variations in ratings for different materials were apparent, suggesting that critical thinking components are not uniformly addressed in such materials. This instrument could serve as a model for the development of similar tools to evaluate critical thinking aspects of curriculum materials in other formats and content areas.

Audience: Adults, G

WEDNESDAY 8:45 STEV 3038

Nosich, Gerald
Professor, University of New Orleans

Learning the Material: Teaching Students to Think in Subject-Matter Courses

The workshop will concentrate on a number of practical pedagogical strategies for getting students to learn the material through teaching them to think about the material critically and creatively. The examples used will be drawn from university-level material in courses across the curriculum, but the methods are designed to be useful for teaching at any level, K–graduate school.

Audience: U, K-12

SUNDAY 3:15 EPT

Nosich, Gerald

Teaching Thinking and Teaching Content: Lesson Remodeling K–12

This workshop will center around some basic concepts in Richard Paul's program for redesigning instruction. We will work at some concrete methods for infusing critical thinking into subject-matter instruction, for critiquing one's lesson plans, and for lesson remodelling. We'll look at lessons in language arts, social studies, natural sciences, and math.

Audience: K–12
MONDAY 1:30 DAR 139

Nosich, Gerald

Thinking Critically About Explanations

For most subjects across the curriculum, the core topic of teaching resolves around explaining why things occur. This is a non-theoretical workshop aimed at learning to think our own way through explanations and teaching students to do so. We'll work through some actual explanations in social sciences, arts (including lit), and natural sciences, and we'll look at some concrete methods for teaching students how to think critically and creatively about the explanations in the field:understanding, evaluation, thinking up alternatives, testing explanations, and thinking about them in context. The examples will be drawn from university-level courses, but the methods are designed to be useful for teaching at any level from about 4th grade through grad school.

Audience:U, 4–12
TUESDAY 1:30 STEV 3038

Nosich, Gerald

Thinking About the Past

A number of courses in various fields are about the past in an essential way: history proper, some sociology, some anthropology, history of music or fine arts or science, many courses on literature. There are teaching methods, strategies, and goals that seem particularly germane to such fields (dealing with primary sources is a clearcut example). This will be a workshop on some of those methods, strategies, and goals. Its pedagogical aim is to get students to approach the study of the past with understanding, critical acumen, and sensitivity to differences and similarities, to achieve a critical sense of the past.

Audience: G, U, K–12
WEDNESDAY 8:45 CH 68

Nosich, Gerald

Some Problems in Teaching Critical Thinking in Subject Matter Courses

(I think of this as a please-help-the-speaker seminar. The problems I want to pose are theoretical, but they arise most sharply when considered as part of pedagogy.)

Once upon a time, good arguments were thought of as valid arguments with true premises. The problems I want to explore are (1) how context-dependent (and field-dependent) is critical thinking? (i.e., looking at a multilogical question within its context often yields a strikingly different line of justification from looking at it from without); (2) how can we reasonably approach actual important inferences in multilogical fields, given that neither inductive nor deductive logic seems enlightening? I'm supposing that the (unsatisfying) answer lies in a certain tension between provability and psychological or sociological persuasiveness. So the third question, to sum up the other two, is, (3) how can we justify preserving the tension and how can we evaluate the strength of the conflicting sides in the tension?

Audience: U

TUESDAY 8:45 EPT

O'Connor, Ellen

Teaching Critical Thinking to Adult Working Students: A Conversation, Part I and Part II

This session aims to tap the views, expertise, and skills of attendees as well as the presenter's.

In an audience-directed approach, the presenter will act as facilitator. She will (1) poll the group for major areas of concern, (2) manage the time so that a minimum of five concerns are addressed to the group's satisfaction, (3) share her ideas and expertise as appropriate, and, (4) summarize the results of the discussion.

Discussion purposes are to (1) articulate concerns, (2) exchange approaches, opinions, exercises, and methods, and (3) develop action agendas in response to the concerns raised.

Participants may attend one or both sessions. The facilitator will attempt to minimize the overlap, but will design the conversation according to the group's stated concerns.

Audience: G, Adult Educators

PART I, TUESDAY 1:30 NICH 173
PART II, TUESDAY 3:15 NICH 173

O'Connor, James

Assistant Professor, California State University

Teacher Action Research: Implementing Critical Thinking Via a Critical Approach

One important current method for conducting applied research in education is through "teacher action research". This presentation will offer participants a look at a variety of action research projects conducted by a group of K–12 teachers. These classroom teachers conducted their own applied research studies within their own classrooms with their own students. Each study focused upon the development of critical thinking strategies or on promoting critical thinking. Session participants will view a videotape recording of these teachers presenting results of their studies. Applied research methodology for classroom teachers will be discussed.

Audience: K–12, U, G

MONDAY 10:30 STEV 3038

O'Connor, James

Cooperative Learning for Promoting Critical Thinking

Cooperative learning strategies are being used to improve student achievement as well as to promote social and affective growth. Cooperative learning strategies have been demonstrated to be particularly effective with minority students and in multi-cultural settings. They promote higher level thinking skills and moral development.

The presenter will provide session participants with particular cooperative learning strategies and activities which focus on developing critical thinking skills. These activities are appropriate for middle school, high school, or college students. Specific guidelines for using cooperative learning will be outlined. Session participants will be encouraged to share cooperative learning activities they have successfully used in their classrooms. Participants will actually participate in a cooperative learning activity during the session.

Audience: JH, HS, U, G

TUESDAY 3:15 STEV 3008

Oxman-Michelli, Wendy

The Many Faces of Critical Thinking

The Institute for Critical Thinking at Montclair State College: A Third Year Progress Report

(The descriptions of the above two sessions were inadvertently left out. Please see page A-8 in Appendix)

Project THISTLE (Thinking Skills in Teaching and Learning): A Ten Year Retrospective and A Look to the Future

Co-Presenters:

Michelli, Nicholas

Jacobowitz, Tina *Associate Professor of Reading*

Coia, Lesley *Research Associate*

Towe, Princess

Davis, Robert

Ten years ago, one of the first critical thinking projects in the current revival of interest in critical thinking began in Newark, New Jersey. Initiated by Montclair State College and funded by the Victoria Foundation and other agencies, the project was designed to help teachers reconsider their curricular responsibilities to teach for critical thinking through a combined curriculum and staff development model. More than 400 teachers have participated to date. The original structure of the project and its evolution will be discussed by the project director, faculty, and participants in the project. Questions include: What special factors must be considered in designing programs for urban schools? What support do teachers need to teach for critical thinking? What differences in teaching can realistically be expected? What effects has the project had on student achievement? How might the project be replicated? Participation by the audience in the discussion and opportunities for questioning will be provided.

Audience: E, HS, CC, U, G

TUESDAY 8:45 DAR 108

Parker, Richard

Professor, Department of Philosophy

A Case for Formal Logic

This presentation is designed to promote the view that formal logic plays — or can play — an important role in the critical thinking classroom. Its first point is a distinction between formal logic and systematic logic, accompanied by an account of how, in critical thinking circles, the former seems to have acquired the reputation that rightly belongs only to the latter.

I agree with the majority that systematic logic is largely irrelevant in critical thinking, but I devote the remainder of the presentation to trying to show why we should administer a dose of formal logic — in one guise or another (categorical, truth-functional, or both) — to our students. The arguments are, most simply, (a) that formal logic works when we run up against certain important kinds of language analysis, and (b) that nothing else does. Partly, but not entirely, the issue turns on the well-worn axle of translation. Along the way, I tell one and one-half jokes and show neither overhead projections nor slides.

Audience: CC, U, G

MONDAY 8:45 STEV 3028

Parks, Sandra

Educational Consultant, Author

Using Graphic Organizers to Improve Thinking and Learning

This presentation will demonstrate how graphic organizers representing various basic critical thinking skills can be constructed and used to both teach thinking and enhance content learning. It is based on the idea that critical thinking skills are basically ways of organizing our thinking, and that the use of visual representations of these organizational patterns can provide us with a simple and powerful tool for achieving both thinking skills and content objectives. The demonstrations will be from material for middle and upper elementary school students in language arts and social studies.

Audience: G

SUNDAY 3:15 STEV 3028

Paul, Richard

Director, Center for Critical Thinking and Moral Critique
Sonoma State University

Richard Paul's Bag of Tricks: Practical Strategies & Tactics for Getting Students Involved in Their Learning

Over the years, Richard Paul has developed a host of techniques for getting his students involved in their own learning. In this session, he will share them and invite additional contributions from the audience.

Audience: G

MONDAY 1:30 STEV 1002

Paul, Richard

How to Foster Critical Thinking Intuitions

Critical thinking depends on "principles" not on "procedures". One cannot think critically by rule or recipe. To become effective critical thinkers requires that we develop critical thinking "intuitions", those "quick and ready insights" that enable us to grasp when a critical thinking principle does or does not apply. Unfortunately, few teachers or professors teach in a way that fosters critical thinking intuitions. In this session, Richard Paul describes ways in which we can foster the development of critical thinking intuitions.

Audience: G

MONDAY 10:30 CH 68

Paul, Richard

Critical Thinking: The Thinking That Masters the Content

In the conference keynote session, Richard Paul illuminates the conference theme: how and why critical thinking is essential to the gaining of knowledge.

Audience: G

SUNDAY 9:00 COMMENCEMENT AREA

Paul, Richard

Organized Practice in Lesson Remodelling and Redesign

This session is designed to provide practice in lesson remodelling to those already familiar with the concept and the critical thinking strategies that underlie it. Richard Paul leads a session focused on "hands-on" cooperative work.

Audience: G

SUNDAY 1:30 CH 68

Paul, Richard

How to Help Students Develop Intellectual Standards (that They Apply to Everyday Life)

Only those who develop explicit intellectual standards can become full-fledged critical thinkers, yet little is done to help students develop them. In this session, Richard Paul describes a variety of ways in which intellectual standards can be fostered.

Audience: G

TUESDAY 10:30 EPT

Paul, Richard

Developing a Comprehensive Plan for School-Wide or District-Wide Reform

A well-conceived plan for infusing critical thinking into the curriculum should have the following characteristics: 1) it should not compromise depth and quality for attractiveness, 2) it should allow for individual variations among teachers at different stages of their development as critical thinkers, 3) it should provide incentives to teachers, 4) it should combine a variety of staff development strategies, 5) it should be based on a broad philosophical grasp of the nature of education, integrated into a realistic pedagogy, and 6) it should be long-term, providing for evolution over an extended period of time. In this session, Richard Paul will elaborate on these characteristics. Ample time will be left for discussion.

Audience: K–12, CC

SUNDAY 3:15 CH 68

Paul, Richard

Remodelling the Curriculum

It is not enough to help teachers redesign their lessons. It is important, in addition, that the curriculum be redesigned. In this session, Richard Paul spells out why and how the curriculum can be redesigned to infuse critical thinking in the schools.

Audience: K–12

TUESDAY 3:15 CH 68

Phillips, Hollibert

Associate Professor, Whitman College

Manner as Matter and Other Matters

Lecture/Discussion: This interactive session will look closely at various levels and dynamic ways of understanding "subject matter", and the assumptions and implications associated with each. Among those ways of understanding which will be addressed are these: subject matter as objectively given, and subject matter as creative, on-going construction. An intimately associated feature of the study is the dynamic role of well-crafted questions in bringing subject matter to exciting and vigorous life. The focus of the session will be this vital activity of the student and thinker/designer.

Audience: CC, U, G

MONDAY 10:30 STEV 3026

Pierce, Gloria

Assistant Professor, Montclair State College

Critical Thinking: The Role of Management Education

This seminar will explore the relationship between the development of critical thinking in adults, especially managerial decision-makers in the workplace, and organizational and cultural transformation. It will also identify some significant areas of inquiry for critical thinking in the context of management (e.g., goal-setting, strategic planning, leadership, and human resource management), and examine issues and implications for business school faculty and management development and training of professionals.

The format of presentation will be participative and experiential. The facilitator will guide discussions, elicit ideas, and summarize learning.

Audience: CC, U

TUESDAY 3:15 STEV 3076

Plavcan, Patricia

College of Agricultural Sciences, University of Wisconsin

Impact of Critical Thinking Instruction in a College-Level Nutrition Course

The effectiveness of teaching critical thinking in nutrition was evaluated using nine specifically-designed nutrition lessons which address the following aspects of critical thinking: building an extensive, accessible knowledge base; metacognitive thinking; the critical spirit; and inductive and deductive reasoning. A pretest and final examination were used to measure progress in academic knowledge. Critical thinking ability was evaluated at the beginning and end of the semester using an instrument designed to measure the specified skills in a nutrition context. The experimental group participated in the specifically-designed lessons as part of a weekly discussion session. The control group attended traditional lecture review sessions. Two instructors were randomly assigned to conduct experimental and control discussion sessions. The experimental group (N=22) had significantly greater gain in academic knowledge scores and deductive reasoning abilities than the control group (N=22). Thus, the infusion approach to teaching critical thinking seems to be effective both in teaching content in the traditional sense and in helping students apply that knowledge when making real life decisions.

Audience: CC, U

MONDAY 1:30 NICH 166

Pollard, Jim

Instructor, Spokane Community College

What Is Not Critical Thinking!

Bringing twenty years of curriculum development experience, Jim has used programmed instruction, L.A.P., Multimedia, Behavioral Objectives, Competency Based Instruction, Individualized Instruction, and Computer Assisted Instruction to design learning activities. This experience will serve as a base with the focus of this session being on the development and design of critical thinking instruction. The session will begin with identifying the kind of learning activities which do not encourage critical thinking from learners, and conclude with ideas on developing learning activities which promote critical thinking. Jim's interactive style of presentation promises a fun and interesting session for all those interested in designing critical thinking activities for their students.

Audience: HS, CC, U

WEDNESDAY 10:30 NICH 204

Pope, Richard

Director, Gateway to Great Thinking, Education Associates

Math/Science for a Lifetime

Enjoy a hands-on, humor filled session demonstrating how mathematical and scientific thinking can pervade your classroom. Experience the joys of math and science empowerment and learn how to instill and manage student empowerment in your classroom. You will take away with you a vision of the active, thinking-oriented environment that can motivate life-long math/science involvement in all your students.

Audience: 3–8 Grades
SUNDAY 3:15 DAR 143

Porter, David B.

Philosophy Instructor, U.S. Air Force Academy

Critical Thinking, Interdisciplinary Education, and Course Evaluations

The Air Force Academy enjoys many pedagogical advantages. Our small size (about 4,000 students) and emphasis on classroom instruction contribute to the educational program we provide. These advantages also allow us to experiment with alternatives to traditional didactic teaching methods. A general model of education which integrates students' personal enjoyment and critical thinking with their mastery of the subject knowledge has been used to frame this investigation. A variety of multi-media, multi-format, collaborative-facilitative programs have been tried and evaluated using our faculty-wide course and instructor critique as well as a variety of other assessment methods. The presentation will be informal, use some multi-media, and cover both theory and data. This program is primarily intended for college and university level teachers and administrators. Please come prepared to participate. (Hopefully, you'll leave any preconceived notions about rigid and inflexible military education programs at the doorstep.)

Audience: CC, U
SUNDAY 3:15 CH 20

Powell, J. W.

Coordinator, Educational Opportunities Program, University of Oregon

Picking Texts for Their Wrong Answers

Using critical thinking textbooks which cannot be trusted is an efficient way to teach several of the important lessons about authority vs. independence, the fallacies, how to read arguments, the limits of method in critical thinking, and differences between artificial and real examples. The "stalking horse" examples come from Howard Kahane, Copi, the Solomons, Patrick Hurley, David Kelley, Robert Fogelin, Moore and Parker, and Trudy Govier. The claim is made that probably any book (which uses examples) will do, since no one has ever done a good job of reading and evaluating a single example of a serious argument. Some of the important claims I take to be revealed by the examples in weak texts are the following:

The fallacy approach leads otherwise sensible people to violate the Principle of Charity.

Deciding what the argument is (describing or reading an argument) is a subtle and neglected skill.

Thinking critically involves distrust and skepticism even about the materials presented in the critical thinking class.

Trying to use a method on arguments, rather than worrying about the issues to which arguments are directed, is a substitute for thinking, not thinking.

Audience: CC, U

SUNDAY 3:15 STEV 3040

Prentice, Mary

Assistant Professor, University of Arkansas at Little Rock

Response: Restructuring Schools for Higher Order Learning

Co-Presenter:

Guess, Jerry

Principal, Fairview Middle School

In, 1985, the Winthrop Rockefeller Foundation provided grants to schools to initiate critical thinking across the curriculum. In, 1987, Governor Clinton hosted a conference, "Schools for Arkansas' Future: Restructuring for Higher Order Learning." In, 1988, the Arkansas Business Council Foundation published "an agenda for a decade." Foundation, government, and business leaders have focused the reform toward redesigning the educational system so students learn to use their minds well.

Persons from the Winthrop Rockefeller Foundation, State Department of Education, cooperatives, schools, and University faculty will present various perspectives of the present practices for teaching critical thinking skills within the state.

Audience: K-12, G

TUESDAY 3:15 DAR 108

Presseisen, Barbara Z.

Director, National Networking, Research for Better Schools

Teaching Thinking in Our Cities: A Focus for the National Urban Alliance

This session reports on the work of the newly formed National Urban Alliance and the importance of making cognitive development a central part of the education of urban learners. Not only are the skills and processes of sound thinking key to any child's academic success, but metacognitive and cognitive development are seen as equally important to sustaining and advancing basic cognitive efforts. Ties to research/implementation studies across the country are drawn, and the importance of sharing experiences is highlighted. Related topics of cooperative learning, supportive environments, teacher and staff development, multi-cultural education, and parental/family partnerships are discussed in terms of the needs of urban school districts.

Audience: HS, K-12, CC

TUESDAY 3:15 ART 108

Presseisen, Barbara Z.

Teaching Thinking in Selected Content Areas: A Survey of Current Practices

Co-Presenters

Kruse, Janice

Coordinator, Instructional Improvement, Research for Better Schools

Smey-Richman, Barbara

Training and Development Specialist, Research for Better Schools

This session reports on information gathered by a national survey of selected projects (K–12) in language arts, science, mathematics, and social studies that purport to teach thinking within a specific academic domain. Innovative curricular efforts are described and examined with regard to issues related to the selection of content and inter-relationships with varied types of thinking. Implications for practice in curriculum development and evaluation are discussed, as well as relationships to student assessment and progress. Participants are encouraged to ask questions and raise issues related to their own concerns. Further research needs and implementation constraints will be discussed. Resource materials on new programs and a working bibliography are included in participant handouts.

Audience: K–12, HS

MONDAY 3:15 DAR 112

Quartz, Karen

Graduate Student

Teacher Empowerment and Critical Thinking

As school-based management becomes widespread, the concept of teacher empowerment needs to be carefully examined. Effective school change through restructuring depends on a concept of teacher empowerment that extends beyond symbolic autonomy over scheduling and discipline. Teachers should be encouraged to think critically about the fundamental assumptions that underlie and constrain educational practice in their own school contexts. For instance, where tracking exists in schools, what are the arguments that support this practice, and are they sound? Engaging in this type of critical thinking will provide teachers with an active understanding of the obstacles to any school change effort. In order to encourage teacher empowerment through critical thinking, I would like to lead a participatory workshop for high school teachers. I plan to first explore the concept of teacher empowerment relative to existing efforts. And second, I wish to engage teachers in critical thinking exercises regarding typical school practices.

Audience: HS

SUNDAY 3:15 DAR 112

Ramírez, José

Professor, Universidad de las Américas-Puebla

The Question Is: Who Wants Critical Thinkers Around?

The focus of this session is the analysis of the structural difficulties of incorporating critical thinking into the educational system in Mexico. The main hypothesis is that critical thinking represents a real threat for those who are in political and economic power in this country. The reasons are clear: Mexico is a country with great social inequalities, and formal education has been used as an "ideological instrument" to justify them. The incorporation of critical thinking into the schools may increase the students' awareness of the real reasons for social inequality and eventually, this may lead to an increase in social unrest. So far, there is enough evidence that neither the government nor the economic elite are willing to accept critical views of the system. One of the alternatives seems to be non-formal education. This session also reports on an experience in a semi-rural community.

Audience: G

SUNDAY 3:15 **STEV 3038**

Rich, Michael

Lecturer, California State University, Chico

Critical Thinking, Moral Arguments, and Ethical Relativism

Many teachers who attempt to teach critical thinking skills in their classrooms feel uncomfortable when it comes to dealing with controversial moral issues. Very often their unease stems from a reluctance to take a stand themselves for fear of being perceived as "preaching" to their students. This reluctance sometimes leads teachers to embrace an extreme form of ethical relativism. This flight to relativism is not the answer. Rather than maintaining that all moral views are equally justified and therefore unassailable, I would argue that there exists a common ground of morality that even individuals with seemingly incompatible moral views share. This common ground, moreover, is central to both moral assessment and critical thinking.

Audience: G

SUNDAY 3:15 **STEV 3046**

Rohatyn, Dennis

Professor, University of San Diego

Leonardo as a Critical Thinker

In his *Treatise on Painting*, Leonardo da Vinci claims that painting is the "master science" to which all others are subordinate. His reasons are both silly and sound, his arguments fallacious but profound. Today we label physics the master science, or else we deride hierarchy. Therefore Leonardo's conclusions strike us as odd and irrelevant. Yet his views are quite defensible, even though our culture is vastly different than his. If we take Leonardo's rhetoric seriously, we can learn to make critical thinking a master science without doing any injustice to the disciplines that support it. That, in turn, enables us to gauge Da Vinci's achievements in art, science, and as a master problem-solver.

Audience: G

MONDAY 12:00 **STEV 3046**

Rosenberg, Vivian M.

Associate Professor of Humanities, Drexel University

Helping Students Stretch: Fostering Emotional Intelligence to Facilitate Learning and Improve Critical Thinking

As students confront new material, they often feel uncertain and confused. In this workshop we consider strategies to help students not only tolerate confusion and uncertainty, but perhaps even celebrate such unsettling emotions as indicators of personal growth and effective involvement in the learning process. Workshop participants will also explore ways of overcoming student resistance that may surface when students begin to question deeply rooted ideas. Special emphasis will be placed on helping students move from weak to strong sense critical thinking by not only reflecting on underlying personal and cultural assumptions but also by considering the emotional dimensions of such reflection.

Audience: G, HS, CC, U

SUNDAY 10:30 DAR 143

Rosenberg, Vivian M.

Modifying Traditional Writing Instruction: Strategies to Facilitate Critical Thinking

Although impressive changes have been made in composition pedagogy in the last few years, too many English instructors still follow — or are expected to follow — traditional strategies which undermine "strong sense" critical thinking. This presentation will review four problems areas: 1) Paper Topics; 2) The Research Paper; 3) The Tone of Student Papers; and 4) The Use of Literary Language. This workshop should be of interest to composition instructors and other teachers who routinely assign papers as part of their course requirements. We will consider possible ways of modifying traditional instructional strategies to foster "strong sense" critical thinking. Material for classroom use will be distributed.

Audience: CC, U

MONDAY 10:30 DAR 122

Rothermel, Dennis

Professor, California State University, Chico

Creating Review Software for Critical Thinking: A Case Study and Demonstration

Co-Presenter:

Tropea, Gregory

Professor, California State University, Chico

This presentation focuses on computer software for critical thinking which embodies two major pedagogical concepts: 1) flexibly-configured, task-oriented, independent learning, and, 2) empowerment of faculty through inexpensive and user-friendly authoring system software. We will be demonstrating both our student review software and the authoring system that creates it. These programs, already in use, constitute the first phase of a long-range educational software project at Chico State. As part of the presentation, we will create a sample working text review program to show how quick and easy it can be with the appropriate software.

Audience: G

TUESDAY 10:30 STEV 3040

Rothermel, Dennis

From Memorization to Mastery: A Design Strategy for Task-Specific Critical Thinking Software

Co-Presenter:

Tropea, Gregory

Software for computer assisted learning (CAL) in critical thinking ought not to be imagined as a "one-size-fits-all" product. Even though a given package may be adaptable in terms of pace and level of difficulty, any program still must focus on achieving a specific objective. The Philosophy Department at Chico State is developing several software packages with various objectives, including presentation of basic principles, assisting students with reading difficulties, enhancing general knowledge while teaching critical thinking, providing drill practice in both formal and informal problems, and the writing of critical essays. The designs we will discuss range from variations on traditional objective exercises to the user-interface of a programmable, hypertext-capable word-processor for use in homework assignments, individual or group study/critique/editing of creative writing, or research papers.

Audience: G

TUESDAY 3:15 DAR 112

Rovinescu, Olivia

Director, Lacolle Center for Educational Innovation, Concordia University

Thinking Critically About Moral and Social Issues

Co-Presenter:

Nemiroff, Stanley

Chair, Department of Religion, McGill University

Our work on Thinking Critically about Moral and Social Issues is premised on Paulo Freire's belief, "themes exist in people and in their relations with the world." Thus, we have conducted dialogical interviews with a variety of people, questioning them about the decisions they made when confronted with moral and social issues in the course of their own lives. These dialogical interviews provide fascinating case studies for the critical examination of the forms of argument and the modes of discourse actually employed in attempts to justify "real life" decisions. We have used these interviews very successfully in a number of college, university, and adult education classes, employing a pedagogical model which we developed for this purpose.

In this "hands on" workshop the participants will *experience* our approach to the fostering of critical thinking utilizing material from our dialogical interviews. They will have the opportunity to participate in activities that they would have their students engage in. Participants will be invited to offer critical feedback regarding the implementation of our approach in post-secondary classes.

Audience: CC, U

MONDAY 1:30 PM DAR 143

Rudinow, Joel

Professor, Sonoma State University

Coping with Inter-Segmental Transfer

An "Inter-Segmental Committee" representing the Academic Senates of the University of California (UC), the California State University (CSU) and the California Community College (CCC) systems has proposed an Inter-segmental General Education Transfer Core Curriculum (IGETC) for implementation throughout higher education in the state of California. This proposal threatens to significantly impact existing programs of instruction in Critical Thinking at both the California State University and the California Community Colleges. In this session, the latest up-to-date information on the provisions for the proposed transfer core curriculum will be presented, the problems these provisions pose will be reviewed, and a model course which satisfies the specifications of both the proposed IGETC and Chancellor's Executive Order #338 will be presented.

Audience: CC, U

TUESDAY 3:15 STEV 2049

Rudinow, Joel

Argument-Appreciation / Argument-Criticism: The "Aesthetics" of Informal Logic

What are the canons of argument criticism? What rational foundation underlies argument/critical judgments? These and related theoretical questions at the foundations of Critical Thinking continue to be raised (by Ralph Johnson and others) in the context of the project of creating a general theory of reasoning. This session offers an alternative conceptual model for the resolution of such questions: the model of aesthetic judgment.

Audience: U, Theoretically Demanding

MONDAY 10:30 STEV 3030

Rudinow, Joel

Teaching Critical Thinking and Media Literacy: The "High Concept"

So far, the Critical Thinking movement has pursued its goals primarily within the framework of a traditional conception of literacy. Driven by the perceived social need to shore up literacy in the face of powerful communications technologies to which literacy as traditionally conceived is irrelevant, the curriculum in Critical Thinking has largely been articulated in terms of a traditional conception of literacy and a set of cognitive and analytical skills traditionally associated with literacy. Accordingly, most courses and texts in Critical Thinking centralize the study of argument identification, argument analysis, argument assessment and argument construction within the overall project of developing reading comprehension and facility at written expression. Without challenging the need for such instruction, it is important to notice that the current rationale for increased emphasis on such instruction equally demonstrates a need for instruction of an entirely new and different sort:

instruction for the development of what we might call "media literacy". This session recasts the overall conception of Critical Thinking and its goals and objectives within the framework of a general theory of discourse (as opposed to a theory of reason or rationality) so that they may be expanded and reinterpreted to encompass the full range of modern media's meaningful dimensions.

Audience: G, U, Theoretically Demanding
MONDAY 3:15 NICH 166

Rudinow, Joel

The "Just Say No" Seminar in Sales Resistance and Advertising Analysis

The complexity, sophistication, power, and prevalence of advertising throughout the information environment make it a worthy candidate for in-depth analysis in a Critical Thinking course. In this workshop/demonstration, a range of common stratagems of advertising composition will be presented and the promising potential, as well as the pitfalls, of incorporating advertising analysis into the Critical Thinking curriculum will be explored.

Audience: HS, CC, U
SUNDAY 1:30 CH 20

Ruggiero, Vincent R.

Author/Consultant

Teaching Thinking Across the Curriculum

Thinking instruction is too important to be confined to a single course or a single department. It should be emphasized across the curriculum. This presentation will outline an approach for doing so, an approach that combines creative thinking and critical thinking and is applicable to both problem solving and issue analysis. Among the topics covered will be instructional objectives, teaching methods and materials, and assessment.

Audience: G
SUNDAY 10:30 ART 108

Ruggiero, Vincent

Teaching Ethics Across the Curriculum: A Critical Thinking Approach

Many groups have urged that ethics be taught from K through graduate school. Unfortunately, most remain vague on HOW it should be taught. Neither "values clarification" nor lecturing students about ethics develops sensitivity to issues and judgment skills. The most effective approach is to guide students to think critically about ethical issues in the specific subject area. This presentation will cover teaching objectives, criteria for ethical judgment, methods and materials, and assessment.

Audience: G
SUNDAY 1:30 ART 108

Ruggiero, Vincent

Critical Thinking and the Concept of "Truth"

This session will demonstrate strategies for teaching critical thinking and provide an opportunity for exercising critical thought. Thought-provoking exercises will focus discussion on these questions, among others: Is truth a completely subjective matter, created by each individual to his or her specifications, or is it objective? Is it more reasonable to regard truth as relative or absolute? (Is there, perhaps, a third view that is more reasonable than either of these?) How do our answers to these questions affect our conceptions of knowledge, opinion, morality, and CRITICAL THINKING?

Audience: HS, CC, U

MONDAY 10:30 ART 108

Ruggiero, Vincent

Teaching Students to Think About Their Thinking

2,500 years ago, Socrates emphasized "Know thyself." Modern teaching experience and research have given new meaning to that idea. We now know that it is not enough for students to develop thinking skills — they must also develop the habit of thinking about their thinking (metacognition). This habit enables them to identify the influences that have shaped their minds, examine their own ideas and values as critically as they do other people's ideas, and thus grow in understanding and wisdom. This session will present a number of proven approaches for guiding students to think about their thinking.

Audience: G

MONDAY 1:30 ART 108

Ruggiero, Vincent

Stimulating Faculty Interest in Thinking Instruction

A perennial problem facing teachers and administrators committed to thinking instruction is how to persuade their colleagues of its value. Many faculty cling to misconceptions: for example, that thinking can't be taught, that it can be taught only to the "gifted", and that thinking instruction detracts from existing course content. Many others sincerely believe that they are teaching students *how* to think whenever they tell them *what* to think. This session will present a number of practical approaches teachers and administrators can take to overcome these misconceptions, transform resistance to enthusiasm, and create an institutional commitment to thinking instruction.

Audience: G

SUNDAY 3:15 DAR 108

Ruggiero, Vincent

The Attitude *Factor: A Serious Obstacle to Thinking Instruction*

Educators from elementary school through university are reporting that increasing numbers of students are bored even by exciting material, have difficulty paying attention for more than five or ten minutes at a time, and are intolerant of complexity. They seem not to *care* about learning. This attitude factor poses a special obstacle to sound thinking which demands a high level of concentration. Unfortunately, the authors of educational reform literature offer little help in overcoming this obstacle because they generally assume "if the student hasn't learned, the teacher hasn't taught." This presentation rests on the view that the attitude factor is essentially *the fault of mass culture rather than educators*. It will identify specific causes and describe a number of practical approaches teachers can use to develop positive attitudes in students.

Audience: G

MONDAY 8:45 EPT

Scott, Eugenie C.

Executive Director, National Center for Science Education, Inc.

Critical Thinking in Science and Pseudo-Science

The general American public is largely scientifically illiterate, and appears unable to distinguish clearly between science and pseudo-science. This lapse in critical thinking has negative consequences for science education. In this workshop, we will contrast scientific ways of thinking with other epistemologies such as authoritarianism, revelation, and mysticism. Science is (among other things) an empirically based, evaluative comparison of alternative explanations. Teachers can teach both scientific methodology and critical thinking by testing claims of pseudo-sciences such as "scientific" creationism, astrology, or dowsing for water, to contrast a scientific explanation with a non-scientific one.

Audience: HS, CC, U

MONDAY 8:45 DAR 122

Scriven, Michael

Professor, Pacific Graduate School of Psychology

Practical Evaluation: The Last Frontier for Informal Logic?

When all of us use *Consumer Reports*, but have never thought about how they design evaluations, when all of us are conned by supposedly independent evaluations such as accreditation, when all of us realize that critical thinking includes a great deal of argument evaluation, why do we not treat evaluation as a topic in its own right when we teach critical thinking/informal logic? Surely it is more important than rhetoric or first order calculus? The answer is that the ghost of the value-free doctrine is still around to haunt us. And the best ghost-busting technique is to show how to do it right. We do have a kind of intuitive idea of how to do it: list the criteria of merit, weight them, score each candidate on its performance on each criterion, add up the products, and the winner is the one with the most points. In this session, we explain why that approach (the Numerical Weight and Sum model) is certain to give the wrong answer much of the time, and we provide an outline of an approach that gives the right answer and is no harder to use (the Qualitative Grouping model).

Audience: G

MONDAY 10:30 EPT

Scriven, Michael

Critical Thinking About Educational Evaluation

About half the time in this forum will be for discussion. The speaker will lead off with some comments on various aspects of evaluation in education, from the point of view of someone who has long been involved in the emergence of both the modern discipline of evaluation and the modern phase of critical thinking. 1) **Student Assessment.** We start with an interesting alternative to simple multiple-choice test items, the "multiple-rating item," which retains fast scoring but extends the test domain to the higher-order cognitive functions such as critical thinking. We also glance at ways to improve essay scoring, the use of work samples and portfolios, etc. 2) **Teacher Evaluation.** There are a dozen significant models in use or being recommended at the moment, almost all with fatal flaws; most of the focus is on the latest (the "research-based" approach) and why it's invalid and what *will* work. **3) Accreditation, A.K.A. "Institutional Assessment".** There's a great deal of national emphasis on this currently, with a new national organization as well as the long-existing regionals. However, the process is still primitive and full of the same mistakes that were uncovered 25 years ago in the early days of program evaluation: it's goal-based instead of needs-based, censorship is still built into the process, student and critical input is still under-used, etc. 4) **Curriculum Evaluation.** Here is where the assumptions are least often challenged, either by top-down or bottom-up approaches. Examples from English, social studies, computer studies, and science/technology ed will be mentioned. Has Richard Paul's mighty contribution here solved the problem? Let's discuss that.

Audience: G

MONDAY 3:15 EPT

Seech, Zachary

Professor, Department of Philosophy, Palomar Community College

The Lincoln Middle School Critical Thinking Project

Co-Presenters

Campbell, Pattie

Principal

Brown, Jean

Teacher

Bortnick, Mike

Teacher

Middle school students earn college credit for a 16-week critical thinking unit that is taught by college faculty during the instructional day in the students' own classroom. Openmindedness is modeled and fostered with Philosophical Chairs (a discussion-debate format that doesn't polarize) and with role playing. Exercises on precision in language and fallacies are included. The course ends with an introduction to the selection of a college. A description of the program will be followed by open discussion.

Audience: JH, HS, CC

SUNDAY 10:30 STEV 3026

Shibles, Warren

Professor, Department of Philosophy, University of Wisconsin

Critical Thinking About Emotion

This session will give an analysis of emotion, based on recent literature in philosophy and therapy: The cognitive or Rational-Emotive Theory.

Audience: G, HS, CC, U

MONDAY 10:30 STEV 3040

Shibles, Warren

The Metaphorical Method of Critical Thinking

The Metaphorical Method (based on a number of journal articles and 3 books by the speaker) will be described and its use recommended as a method of critical inquiry, as well as its use in writing journal articles and as a guide for teaching students how to write papers.

Audience: G, HS, CC, U

MONDAY 3:15 STEV 3046

Soven, Margot

Director, Writing Project, Department of English, La Salle University

Exploratory Writing as Resource for Critical Thinking in Context

Co-Presenter:

Sullivan, William M.

Professor, Department of Philosophy, La Salle University

The aim of our presentation will be to demonstrate the value of exploratory, dialectical modes of thinking and writing for encouraging critical thinking. Our definition of critical thinking assumes that reasoning is embedded in language and bears the marks of contextuality and contingency. To accomplish our objectives, we will describe an interdisciplinary pilot project at La Salle. Students in courses in political science, criminal justice, and finance were assigned common readings, and exploratory writing assignments on the subject of "progress", to demonstrate the power of exploratory writing for examining how an idea integral to the subject matter of all disciplines is considered in several fields. The presentation will consist of brief remarks followed by a workshop. Sample instructional materials and student papers will be examined.

Audience: CC, U

SUNDAY 1:30 STEV 3072

Splaine, John

Associate Professor of Educational Policy, University of Maryland

Critical Viewing: Stimulant to Critical Thinking

The critical viewing of television is necessary in our electronic age. In this session, critical viewing concepts and skills will be demonstrated and explained. Suggestions for developing critical thinking through the process of critical viewing will be made.

Audience: G

TUESDAY 8:45 STEV 3072
TUESDAY 1:30 CH 20

Stafford, Joel Lindsey

Speech/Language Pathologist, Special Services Center

What Inquiring Minds Want to Know: An Inservice Workshop for Educators

Co-Presenter:

Seligman, Dee

Training and Technical Assistance Associate
Southwest Educational Development Laboratory

Working as a partner representative of the Oklahoma Education Association to the Southwest Educational Development Laboratory (a regional laboratory) in Austin, Texas, J. Lindsey Stafford has developed a three-hour awareness inservice workshop on thinking skills and assessment of thinking. Three objectives are addressed: 1) to increase awareness of the need for the teaching of thinking in public school classrooms; 2) to teach methods of infusing thinking into the current curriculum; 3) to provide a better understanding of the background information on the measurement of thinking. The conference presentation will consist of a modified version of this inservice workshop, together with a brief presentation by Dee Seligman describing SEDL's approach to the training of trainers. The presentation provides a model introductory inservice session for all levels of instruction. It also provides an example of how educational organizations can work cooperatively to train trainers. Since budgetary constraints often prevent hiring ongoing consultants to help develop thinking in the curriculum, this effort provides a model for ways to disseminate the best thinking about thinking in an efficient, grass-roots manner.

Audience: K–12, Staff Development , Administration
MONDAY 3:15 NICH 204

Steedman, Carrol

Director, Credit and Special Interest Programs
Division of Continuing Education, University of Nevada, Las Vegas

Aristotle and the Repertoire of Reasoning in Continuing Educational Programs

In the literature on "reflection" there is an abundance of "why" we should address reasoning and practice deliberation among adult learners. However, there is little or no mention of the teaching of argumentation which is the "how to" of reflection. To better understand the repertoire of reasoning that can be taught in argumentation, we will discuss Aristotle's *The Rhetoric* and Chaim Perelman's "the rational" and "the reasonable". As a conclusion, three continuing education programs offered for the general public will illustrate how the teaching of argumentation can become an integral part of the course design: a forum on the ethics of public health care; a reading/discussion class entitled "Mind, Nature, and the Re-enchantment of the World"; and a study skills class based on Kathleen Dean Moore's "*A Field Guide to Inductive Arguments.* Course descriptions and outlines will be provided.

Participants are invited to bring examples of classes or public programs which explicitly teach and practice argumentation and might be offered through Continuing Education or Adult Education programs.

Audience: CC, U

SUNDAY 1:30 STEV 3038

Swan, Hobart

Department of Communications,
San Francisco State University/Swan Productions

Public Education: It's a Bull Market

This session is centered around a half-hour video documentary which offers a critical examination of the influence of business in public education curricula and policy decision-making. Using examples of corporately produced "teaching materials", corporate "adoption" of schools, and the "Choice" program, the documentary explores the growing trend toward privatization of American public education.

Audience: G

TUESDAY 10:30 STEV 3049

Swartz, Robert

Co-Director of the Center for Teaching Thinking
The Regional Laboratory for Educational Improvement of the
Northeast and Islands, University of Massachusetts at Boston

Combining Techniques for Direct Instruction in Critical Thinking Skills with the Infusion of Critical Thinking into Content Area Instruction

Co-Presenter:

Parks, Sandra

Consultant

In this presentation, we will distinguish three basic techniques that have been used for instruction in critical thinking: teaching critical thinking skills through direct instruction apart from the curriculum, stimulating critical thinking in standard instructional contexts by the use of such techniques as higher-order questioning, and infusing the direct instruction of critical thinking skills into content instruction by restructuring the way traditional content is taught. The presenters will demonstrate these techniques with a variety of activities, and show how they can be combined to yield two powerful alternative models for teaching thinking in the content areas, models designed to achieve both thinking skills goals and standard content objectives. Mr. Swartz and Ms. Parks (formerly Black) will demonstrate these instructional models with a number of critical thinking lessons infused into content instruction, K–12, that they have designed as samples that teachers can use to learn the techniques of lesson design that these lessons exemplify.

Audience: K–12

SUNDAY 3:15 STEV 1002
MONDAY 10:30 STEV 1002

Swartz, Robert

Assessing the Quality of Student Thinking: Techniques for Classroom Teachers

While multiple choice tests have been the standard vehicle used in national and statewide testing programs, assessment needs at the classroom level to diagnose and monitor the quality of student thinking call for other reliable, but less formal, means of assessment. One important way that teachers themselves can design such ways of assessing the critical thinking skills of their students is demonstrated and discussed in this presentation. It involves constructing appropriate prompting questions raised about examples which call for the use of specific critical thinking skills and then assessing students' responses against well–articulated characterizations of these critical thinking skills which teachers use in developing critical thinking lessons. A number of specific lessons will be examined, and participants in this workshop will be shown how they can make use of what is incorporated into these lessons to construct such assessment items.

Audience: G, K-12

MONDAY 1:30 CH 68

Sweers, Carolyn

Teacher of Philosophy, New Trier Township High School

Effective Uses of Dialogue in a Classroom Setting

Students tend to learn more when they have the opportunity to share important life experiences. On the other hand, unstructured sharing has limited educational value unless the discussion is guided in such a way that insights are discovered and deepened in the process. The master of the technique of insightful conversation was Socrates. This participatory workshop will explore a variety of techniques for deepening understanding through Socratic dialogue.

Audience: K–12

MONDAY 8:45 STEV 2049

Sweers, Carolyn

Helping Students Examine Their Lives: How to Elicit and Analyze Experiential Information

The basic intent of the Socratic method is the examination of life. This examination is neither moralistic nor judgmental. It elicits rather than imposes values. This workshop will consist of two parts: 1) an introspective exercise that will elicit important information about life values and ways of attaining them, and 2) a follow-up discussion of specific methods for teaching life values in a genuinely Socratic manner.

Audience: K–12, G

TUESDAY 8:45 STEV 2049

Sweers, Carolyn

The Socratic Teacher

Most discussions of Socratic teaching deal with questioning techniques that a teacher can use to develop critical thinking in his or her students. As important as this is, there is another vital dimension of Socratic teaching and that is an awareness of the Socratic "metaphysics" which recognized the world as a place of mystery as well as intelligibility. In this workshop,participants will develop a vocational self-portrait that will include various aspects of the "cosmic" context in which teaching and learning take place. In addition, there will be a discussion of what "care of the soul" (a primary Socratic value) means for teachers, in particular.

Audience: G

WEDNESDAY 8:45 STEV 2049

Tatikonda, Rao

Professor of Operations Management, College of Business Administration, University of Wisconsin-Oshkosh

Mastering Basics of Production/Operations Management Through Higher–Order Thinking Skills.

This presentation is directed at the faculty teaching in business administration, economics, engineering, and technological disciplines at the community college, four-year college, and university levels. The courses can be either undergraduate or graduate. Participants will see how this presenter introduced and integrated higher order thinking skills into his undergraduate and graduate production/operations management courses, his teaching methodology, teaching/learning materials, assignments, class discussions, quizzes and examinations, challenges faced by him and his students, and the reactions and recommendations of his students and himself. Participants will have an opportunity to explore how this approach may be used in their own courses and to offer improvement suggestions to this instructor's approach.

Audience: CC, U

MONDAY 10:30 NICH 320

Taylor, William

Professor of Political Science, Oakton Community College

Critical Literacy: The Pedagogy of Critical Thinking

The traditional lecture classroom is well suited for communicating facts and information. But it's not a method that gives students an opportunity to practice and develop critical thinking. Thus, if we are concerned about helping our students become critical thinkers, we need to develop additional teaching methods.

This workshop will explain the concept of "critical literacy" and will compare the pedagogies of the traditional lecture classroom and the critical literacy classroom — a classroom devoted, not only to teaching the content of the discipline, but also the critical thinking of the discipline.

This is the first in a series of workshops led by faculty in the Critical Literacy Project at Oakton Community College. Participation in the other workshops is not necessary for participation in this one.

Audience: HS, CC, U

SUNDAY 10:30 DAR 122

Tyner, Kathleen

Executive Director, Strategies for Media Literacy, Inc.

Exploring Re-Presentation: A Cultural Approach

Audiences bring a set of expectations to their use of mass media. When expectations are violated – as they sometimes are in the blurring of news, advertising and entertainment – audience members become frustrated, confused, and angry. Audiences are particularly volatile when they process the meaning of a global array of media messages as they attempt to communicate cross-culturally.

This participatory lecture encourages critical thinking about mass media by examining the factors working to shape meaning outside the media artifact. The cultural approach to media analysis encourages audience members to consciously participate in the media environment by asking a set of critical questions every time media messages are encountered. These questions stress that media do no represent, but *Re*-present reality.

Useful for all teachers and those working with global, inter-cultural,or anti-racist educational efforts. K–12 teachers are especially encouraged to attend.

Audience:K–12, G

MONDAY 3:15 STEV 2049

Tyner, Kathleen

Trying to Make a Dovetail Joint: Critical Thinking and Media Literacy

This session explores the affinity of media studies to the critical thinking movement. Some of the questions about mass media's connection to critical thinking come from a general confusion about the goals and objectives of media education in the United States. The session will compare goals and objectives common to both educational movements and will investigate ways to fit the two together skillfully. An emphasis will be placed on teaching about media itself, as opposed to teaching by using media in the classroom. Model school programs currently integrating hands-on media production with critical thinking about media will be highlighted. Participants will be encouraged to brainstorm and contribute strategies for connecting media education programs to existing critical thinking fair.

Teachers at every grade level are encouraged to attend. The session is also useful for instructional designers and media professionals.

Audience: K–12, HS, CC, U

TUESDAY 8:45 STEV 3076

Unrau, Norman

Supervisor of Teacher Education, St. Mary's College
Teacher of English, Acalanes High School

The TASK of Reading and Writing

Many high school and lower division college students read arguments superficially and write them without adequate reflection, perhaps because readers and writers often do not have a sense of appropriate strategies and plans that they need to construct meaning efficiently. This program of explicit instruction, called TASK (Thesis Analysis and Synthesis Key), is embedded in an English curriculum and is designed to help students read and write arguments. In research using the program, eleventh graders who received instruction in TASK demonstrated statistically significant improvement in both reading and writing of arguments. The TASK program can be used to help students improve in their abilitities to both read arguments critically and to write them convincingly.

Audience: HS, CC, U

MONDAY 1:30 DAR 122

Villarini, Angel R.

Director, Project for the Development of Thinking Skills
Center for the Enhancement of Teaching, University of Puerto Rico

Critical Thinking, Curriculum Revision, and Educational Reform in Puerto Rico

This is a presentation of the principles and strategies used at the Puerto Rico Department of Public Instruction to guide curriculum revision in terms of critical thinking. Special attention is given to the processes of course design and teacher training. Strengths and weaknesses of the process of curriculum revision, as well as its effects on educational reform in Puerto Rico are analyzed. This activity is pertinent to anyone who aims toward designing effective strategies to link the critical thinking movement to the educational reform processes at the district or state levels.

Audience: G

MONDAY 3:15 STEV 1002

Villarini, Angel R.

Bridging the Gap Between Teaching Thinking and Content Instruction: The Faculty Enhancement Center at the University of Puerto Rico

Co-Presenter:

Orlandi, Adalexis Rios

Center for Enhancement of Teaching

A demonstration of the program for faculty development implemented by the Project for the Development of Thinking Skills will be the focus of this session. This program integrates thinking skills development and content instruction in particular disciplines. The program has been using a very successful strategy to promote the above described integration. Over 15 professors from different academic disciplines are developing experimental projects that integrate thinking skills development and content mastery.

Audience: CC, U

TUESDAY 10:30 ART 108

Villarini, Angel R.

Co-Presenters

Orlandi, Adelexis Rios

Paul, Richard W.

Weil, Danny

Marcos, Anastasios C.

Sociology Professor II, The American College of Greece

Critical Thinking or Critical Consciousness?

The Social Dimension in the Development of Thinking

The encounter between Anglo-Saxon and Latin American approaches toward the development of critical thinking which took place at the 4th International Conference on Thinking, left the need for searching for a synthesis. The Anglo-Saxon approach represents a psychological and logical view of critical thinking, whereas the Latin American approach represents a socio-political, anthropological, and socio-psychological view. This panel will discuss the characteristics of each approach as well as possible directions for synthesis. After initial presentations by the panelists, a broad discussion of the topic will take place with the participants.

Audience: G

MONDAY 8:45 ART 108

Walton, Craig

Professor of Philosophy, Director, Institute for Ethics and Policy Studies
University of Nevada, Las Vegas

What is Liberal and What is Conservative about Critical Thinking?

Some observers have claimed that the Critical Thinking movement is meant to be a liberals' movement because some of its leaders are politically liberal, or because it lends itself to challenging dominant conservative leaders or undermines much of current media and educationist opinion as "indoctrination". Others have seen it as inclined to conservative mentalities because it lends itself to didactic or indoctrinating presentation (even if "in spite of itself"), often calls on *status quo* arguments as examples, casts doubts on deeply-felt progressive convictions, or places the heaviest burden of proof on those who would depart from the preponderance of current practice or opinion. In this paper, I present contemporary and historical definitions of 'liberal' and 'conservative', in order to both promote our discussion of these ideas and too enable us to come to some conclusion. After considering the merits of both positions, my own conclusion is presented: that critical thinking lends itself equally well to all partisan or temperamental varieties, except to those of dogmatism.

Audience: G

SUNDAY 10:30 STEV 3040

Walton, Craig

How to Teach "Reasoning Across the Curriculum"

This presentation is designed for two groups: those who would like to introduce critical thinking skills into their current classroom curriculum without buying new materials, relying for examples on texts or other materials already in use; and for those who would like to take back to their schools or districts the plan of this workshop in order to use its format to work with others to benefit from it. This workshop has been offered and developed over five years in the Clark County (Nevada) School District.

The plan is in two parts, usually done on two separate full-day sessions, but here compressed for our Conference's purposes: first, we practice six steps of argument analysis and evaluation, in order to grasp the needed skills by using common examples; then we turn to materials currently appearing in a wide variety of K–12 texts, at every reading level and from literature to math, from history to life sciences, in order to show the "across the curriculum" range of this way of approaching the need for reasoning skills in every segment of school and our common life.

Rather than delegating critical thinking teaching to one teacher or department, this approach lets everyone in on the act: because, in fact, students' minds are taking in some sort of information and doing something with it, from the gym to government and from the shop to math.

Audience: G, K–12

MONDAY 3:15 STEV 3008

Walton, Craig

Critical Thinking and the 1990 NAEP Functional Literacy Studies

The National Assessment of Educational Progress (NAEP) recently published new (1990) studies of reading and writing by children ages 9–17 as they reveal "functional literacy". Significant drops in reasoning ability occur when questions changed from single-item, or clearly-flagged question/answer match-ups, to two–item or more-item questions calling for critical ability to interpret and analyze information in order to solve a problem or construct an answer. The weaknesses of young Americans at these middle — to higher-level reasoning and expression skills amounts to "functional illiteracy", meaning that many of our young will not be able to "process" information, and thus will not be able to be hired or be mentally involved in,our society and governing systems. This phrase does not refer to E. D. Hirsh's notion of "cultural literacy", but is drastically more primitive, a much more foundational prerequisite to the ability even to read and evaluate slightly complex information.

In this presentation, we will work on two questions: 1) What do the 1990 studies tell us about functional illiteracy as it relates to critical thinking abilities and what are the kinds of things young people are doing poorly, and why?; and 2) what can we do, from K through College, to face up to this weakening of thinking? I shall try to indicate which Critical Thinking skills are needed (from primary grades on up) if our people are to become able to grow from their present, single-factor or information-recognition level of mind (which is so close to "conditioning"), to the multi-factor, questioning, problem solving and synthesizing levels of reasoning. It is these latter which we associate with adulthood, citizenship, and the (possible) freedom of the human spirit. As Montaigne said, here we are discussing the one liberal art on which all the others depend.

Audience: G

TUESDAY 10:30 DAR 108

Walton, Craig

Critical Thinking and the Art of Judgment

Too often we speak about "argument analysis" as if critical thinking were only analytic — the ability to dissect and microscopically examine words, phrases, or bits of an argument. But the experienced teacher often finds that students leap into these analytic tasks without even knowing the meaning of the paragraph or issue whose parts they are analyzing. This over-emphasis on analysis can be corrected by exploring the several (I count six) places in argument analysis where, in fact, we need to undertake syntheses — artfully-made judgments of some kind — in order to move on from there.

From Socrates, Plato, and Aristotle to Montaigne, Pascal, Hume, and Dewey, a vital but largely-forgotten part of the history of logic had discussed this other sort of judgment. The "art of judging well" was distinguished from the more formally definable and rule-governed processes of formal, purely-deductive judgment. For these thinkers, it was necessary to show both where and why the art of judgment is needed, as compared to where judgments can be formed by following formal rules of inference.

In this paper I would like first to illustrate what is meant by the art of judgement as discussed by several of these classical thinkers, not just "informal", but a constructive, self-conscious, and corrigible art of the mind. I shall then present a sequence of steps or phases in the teaching of critical thinking where a student's practice of the art of judgment comes into play, and what we can do to nurture it. I shall also indicate where, in my understanding of it, the formal judgment skills come into play, and where they do not. The presentation is intended for a general audience, but draws upon the history of logic in ways of special interest to philosophers. My larger concern is to contribute to the identification of, and then the cultivation of, individual student's own powers of judgment.

Audience: G, CC, U

TUESDAY 3:15 DAR 139

Waxman, Hersholt C.

Associate Dean for Research, University of Houston

Critical Thinking Instruction in Elementary, Middle, and High School Classrooms

Co-presenters:

Knight, Stephanie L.
Walker de Felix, Judith
Padron, Yolanda N.
Johnson, Richard
Sterchy, Sharon

This symposium will report the results of a major research study where nearly 200 elementary, middle, and high school classrooms across the country were observed in order to examine the quality and quantity of critical thinking instruction in the schools. Each presenter will discuss some of the specific findings and highlight the implications for exemplary instructional practices.

Audience: G

MONDAY	3:15	ART 108

Webster, Yehudi

Professor, California State University, Los Angeles

Are There White and Black People? Reasoning about Racial Classification

Criticisms of race have come from every discipline except philosophy. Yet racial classifications exhibit a multitude of logical flaws, as in the syllogism: "I have white skin. Therefore, I am white." "People regard themselves as black. Therefore, race is a reality." "Only black people have been enslaved. Therefore, white people cannot appreciate the black experience." This presentation will outline the educational source of these and other fallacies, and indicate how critical thinking skills must be integrated with courses on racial and ethnic relations. It will therefore also address hidden (realistic and relativist) philosophical inputs in the training of teachers and social scientists.

Audience: G, K-12, CC, U

MONDAY	3:15	STEV 3049
TUESDAY	3:15	NICH 204

Weddle, Perry

Professor, Center for Reasoning Arts
Philosophy Department, California State University, Sacramento

Handling Emotion

This workshop's presenter confesses, not only zero expertise in its topic, he confesses, what's worse, something resembling pedagogical failure. He cries out. Despite 2x4's to the frons, intro-level critical thinking students seem unable to distinguish the emotional component over an issue from the force of some argument addressed to the issue.This alleged pathology will be explored by means of several examples, including actual student papers. The audience, it is hoped, will become fully engaged. Given the alleged pathology, its potential treatments will likewise be explored. Given the pathology and potential treatments, prognoses will likewise be explored.

Audience: HS, CC, U

TUESDAY 8:45 STEV 1002

Weddle, Perry

Streamlining Critical Thinking Pedagogy: Diagrams

Ideally this workshop would be mutual. The presenter intends to divulge dozens of diagrammatic tricks developed over a quarter century, tricks which allegedly beat straight prose. In turn, the presenter expects criticism, suggestions for improvement, collective expertise, and, in abundance, related parlour tricks.

Audience: HS, CC,U

TUESDAY 3:15 STEV 1002

Weil, Danny

Bilingual Teacher, K–1, Santa Maria Bonita School District

Understanding Social Science Through Multi-Cultural Global Literature: A Critical Thinking Approach to Elementary School Instruction (K–3)

The ability to think critically about public issues, both national and international, requires a broadened understanding of other cultures. The development of "cultural literacy" increases the student's critical understanding of the rich and complex nature of given cultures– their history, geography, politics, literature, technology, art, drama, dance, music, law, religion, philosophy, social structure, and society in general. This cultural awakening serves to foster an awareness,not simply of a nation's cultural life, but the values and beliefs of its people. Developing cultural literacy increases the potential of all students to formulate appropriate questions leading to a deeper critical understanding of international and national affairs. Multi-cultural literacy, by it's definition, demands reasonable judgment and problem solving techniques and approaches. The use of multi-cultural global literature provides the K–3 teacher an opportunity to enhance cultural awareness and at the same time foster self-esteem among new immigrant groups here in the U.S. By using multi-cultural global literature in a reading process that relates its content to the students own experience, students are better equipped to build a sensitivity towards each other, while understanding and recognizing differences in and similarities between peoples of other cultures. Building a critical understanding of the world in which we live, as well as fostering a respect for the dignity and worth of all people, is the goal of this workshop.

The workshop will be a hands-on workshop. As the coordinator and speaker of the workshop, I plan to have lesson plans available which can be used in the K–3 classroom. These plans will be accompanied by a bibliography of chosen children's literature that is multi-cultural and global in nature. Materials will be available in Spanish and English.

Audience: K–3

SUNDAY 3:15 ART 108
WEDNESDAY 8:45 ART 108

Weinstein, Mark

Associate Director, Institute for Critical Thinking, Montclair State College

Entailment

Entailment is a richly encompassing notion that engages with a number of disputes in current discussions of critical thinking and in the recent history of formal and informal logic. I will present a brief overview of the contemporary discussion in informal logic, distinguishing between kinds of entailment relations: deductive, inductive and convergent. Entailment has also been used as a framework for the identification of missing premises and implicit assumptions and thus engages with issues involving the "principle of charity". My contention is that, although such work is valuable for the general project of understanding argument, it fails to address issues that would be better seen if a richer and more differentiated notion of entailment were under consideration.

To do this, I will draw on discussions in formal logic, argumentation theory, and critical thinking. In particular, I will attempt to distinguish notions of validity that expose three major components of entailment: deductive or quasi-deductive apparatus used to support premise/conclusion relationships, analytic and nomic relations that address internal connections between terms in arguments, and functional qualifiers of the sort that Toulmin recommends. It will be argued that these notions of validity are both functionally and structurally distinct, and thus, must be distinguished, if an adequate account of entailment in argument is to be forthcoming.

Audience: G, Theoretically Demanding

MONDAY 3:15 CH 20

Weinstein, Mark

Critical Thinking Across the College Curriculum: What Faculty Wants and Needs

Critical thinking across the college curriculum engages with the disciplinary commitments of faculty. Such commitments do not have a clear and compelling relation to typical arrays of general thinking skills or informal logic concepts. Thus, much of the available literature on critical thinking is not helpful to faculty who, nevertheless, accept the critical thinking ideal of autonomous, thoughtful, and reflective students. The experience of faculty development at Montclair State College has, however, pointed to a number of general issues that seem to me of relevance to critical thinking across the disciplines. These include concern with the epistemological assumptions of the various fields, argumentation within disciplines, the construction of appropriate academic tasks, educational objectives within particular fields, issues of the canon, and the motivational aspects of learning that inhibit students' accepting critical thinking as an appropriate educational objective. What we hope to suggest by this presentation is that critical thinking advocates should focus more on these sorts of concerns and less on the standard fare extrapolated from introductory level logic courses.

Audience: CC, U

SUNDAY 1:30 DAR 108

Wertime, Richard A.

Associate Professor, Department of English, Beaver College

Posing Questions: A Practical Workshop

This is a hands-on workshop for teachers who want to help their students ask better questions. We will consider (a) what questions consist of as intellectual acts; (b) what typically makes the act of posing questions hard for students; (c) the repertories of question-posing skills any student should possess; and (d) the function of anxiety in students' asking weak questions. The workshop will combine a brief introductory lecture with small-group activities.

Audience: HS, CC, U

SUNDAY 1:30 DAR 139

Wertime, Richard A.

Thinking about the Self as Performer: Making Key Connections Between Intelligence and Effectiveness

Many students fail to recognize that academic success hinges as much on self-knowledge as on knowledge of content. Critical thinking strategies, which help students master the arts of self-management, are central to the students' achieving maximal effectiveness in learning content areas. What is the basic logic of serious inquiry? What kinds of self-dramatization are involved in becoming maturely intellectual? How does a conscious knowledge of methodological assumptions govern a student's work in various disciplines? This presentation will combine lecture material with a small-group workshop session to address these questions.

Audience: HS, CC, U

MONDAY 3:15 DAR 122

Wiederhold, Charles W.

Staff Development Coordinator, Placer County Office of Education

Cooperative Questions About Content

If Critical Thinking is to master content, it must be the sort of critical thinking that empowers students with the tools of question poser, question processor, active listener, and cooperative learner. Paul's intellectual virtues of courage, humility, perseverance, and integrity are served through a unique application of student generated questions, applied to content, in a Cooperative

Learning environment. This participatory workshop will use question generation materials in a structural, groups-of-four, Cooperative Learning and whole class environment.

Audience: G
SUNDAY 1:30 STEV 3026

Williamson, Jan

Greensboro Public Schools

Examples from the Classroom: Lessons and Strategies for Teaching Critical Thinking

This workshop provides concrete, practical examples and lessons from teachers who have been involved in a three year city-wide program to infuse critical thinking into the K–12 curriculum. An elementary, a middle school, and a high school teacher will share some of their best strategies and lessons, along with specific examples of how to establish a classroom atmosphere that enhances critical thinking and how to foster student autonomy and independence. This session should provide usable examples and classroom activities for the teacher who is looking for ways to translate theory into classroom instruction.

Audience: K–12th
SUNDAY 10:30 STEV 2049
MONDAY 10:30 STEV 2049

Witte, Marlys

Professor of Surgery, University of Arizona, Tucson

Prescription for the 90's: Designing Educational Experiments in Ignorance, Failure, and Chaos for Students and Teachers

Co-Presenters

Witte, Charles

Professor of Surgery, University of Arizona, Tucson

"In ten years, 50% of what you have learned in medical school will have been proven false. The problem is: we don't know which fifty percent." Harvard Medical School Dean, addressing entering medical students.

Physicians, we are told, need to know a great deal. However, "knowledge" in medicine (as in other human endeavors) often changes dramatically and abruptly, while physicians practice for many years. Inquiry and experimentation alter the canon of medical facts; the rate of decay of established knowledge attests to vigorous research. If they are to function well, future physicians (and all citizens) must learn more than content (i.e., "answers" or "facts of the day");they need the motivation and skills to seek out and filter the content, challenge existing content, and contribute new content. The Curriculum on Medical (and other) Ignorance (CMI) at the University of Arizona College of Medicine, begun in 1985, aims to hone abilities, to question, create, experiment, and deal constructively with unknowns as well as medical students from first through fourth years, centers around hands-on research and "brain-on" inquiry in a variety of fields. In this participatory session, Marlys and Charles Witte, M.D.'s and, will present aspects of this Curriculum (and experiments by Sonoma workshop ignorance disciples from other disciplines) including the Summer Institute and the year-round Seminars and Clinics on Medical Ignorance, Visiting Professors of Ignorance (distinguished ignorami), La Residencia del Incognito ("House of Ignorance"), and the CMI Workbook and Resource Manual. Designed for educators from K through U in all fields of study, this lively workshop will look at content and process in education, with special emphasis on ignorance, failure, and chaos, hitherto neglected yet vital conditions for teaching, learning, and discovery.

Audience: G

SUNDAY 10:30 STEV 3049

Worsham, Toni

Director, Maryland Center for Thinking Studies, K–12, Coppin State College

Co-Presenter:

Stockton, Anita

Thinking Better by Thinking About Thinking Together

This session will incorporate metacognitive and paired thinking activities including process observing, thinking aloud, think-pair-share and think logs to facilitate increased understanding of specific thinking skills. Participants will follow the Inclusion Process Focus lesson model to identify, analyze, define, describe, apply, and assess selected skills. Curriculum designs which promote effective thinking will be shared. Special emphasis will be given to thinking imperatives for the 21st century.

Audience: G, K–12

SUNDAY 10:30 STEV 3028

Yli-Luoma, Pertti V. J.

University of Uppsala, Predictors of Moral Reasoning

Predictors of moral reasoning were investigated in this study. Home background and classroom environment were considered as exogenous predictors and the logical ability of the students as an endogenous predictor of moral reasoning. The aim of the study was to develop and test empirically the structural model of the relationships between these concepts. The LISREL method was used.

The instruments to measure Home Background and Classroom Climate were developed from the perspective of attachment theory. The data strongly support the Kohlbergian theory of logical thinking ability for developing moral reasoning. This study and its implications for teaching and learning will be discussed in this session.

Audience: CC, U, G

WEDNESDAY 10:30 NICH 320

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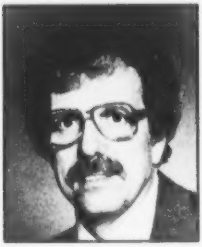
Appendix



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Special Interest Groups

(Tuesday, August 7, 7:35-8:35 am)

In order to facilitate networking within critical thinking special interest groups, a special time has been set aside for such groups to organize themselves if they so wish. The nature and extent of the organization that is set up will be dependent entirely upon the will of the members present at the meeting. The Center will continue to schedule meeting times for the groups at future conferences if interest justifies such continuance. Please feel free to join any of the following groups and to act as a mover in setting up a network.

☐	*Elementary (K–6)*	*DAR 143*
☐	*Middle School (7–8)*	*DAR 122*
☐	*High School (9–12)*	*DAR 112*
☐	*Critical Thinking Staff Development*	*CH 68*
☐	*Community College*	*STEV 3008*
☐	*Four-Year College and University*	*STEV 2049*
☐	*Critical Thinking in Literature and Language Arts*	*STEV 3072*
☐	*Critical Thinking and Psychology*	*STEV 3046*
☐	*Critical Thinking in the Arts*	*ART 108*
☐	*Critical Thinking in Science and Math*	*CH 20*
☐	*Critical Thinking Assessment*	*STEV 3026*
☐	*Critical Thinking for the Slow or Disadvantaged Learner*	*STEV 3038*
☐	*Learning and Tutorial Centers*	*STEV 3040*
☐	*Feminist Education*	*STEV 3049*
☐	*Critical Pedagogy*	*NICH 173*
☐	*Critical Thinking and Computer Programs*	*NICH 204*
☐	*Informal Logic and Reasoning Studies*	*STEV 3028*
☐	*Critical Thinking Staff Development and Inservice*	*STEV 3076*
☐	*Critical Thinking and Cooperative Learning*	*STEV 3095*
☐	*Critical Thinking and Religious Education*	*CH 10*
☐	*Critical Thinking and Communication Studies*	*NICH 166*
☐	*Critical Thinking and the Law*	*STEV 3077*
☐	*Critical Thinking and Nursing Education*	*DAR 139*
☐	*Critical thinking and Preservice Education*	*STEV 3030*
☐	*Starting Critical Thinking Newsletters*	*STEV 1002*
☐	*Critical Thinking for Pre-School Children*	*NICH 320*

"Education in the 21st Century" Series

The Role of Critical Thinking

(Tuesday, August 7)

The "Education in the 21st Century" Series is a sequence of Socratically-led roundtable discussions of the role of critical thinking in the schools, colleges, and universities of the Twenty-First Century. The first seminar will focus on elementary education, the second on Middle School, the third on High School, the fourth on Community College, the fifth on liberal arts colleges, and the sixth on the University.

The content and insights expressed in the discussions will be the result of the collective wisdom of the participants. Order, direction, and coherence will be maintained through the Socratic discussion leader who will keep the group on the task. Brief reports on the major points of consensus and the major issues discussed will be presented at the conference wrap-up session in the auditorium on Wednesday at 1:30. Emphasis will be placed on the question, "Where do we go from here and how do we get there?"

Elementary Education in the 21st Century

The Role of Critical Thinking A Socratically-led discussion focused on the questions: How will the elementary school of the 21st Century differ from the elementary school of today? And, more particularly, what is the role that critical thinking will play in it? To discuss these questions fruitfully, it will be important for related questions to be considered. For example, what sort of technological and social changes can we reasonably expect to take place? What sorts of environmental changes? What sorts of ideological changes? What sort of global, political, and economic changes?

The Middle School of the 21st Century

The Role of Critical Thinking A Socratically-led discussion focused on the questions: How will the elementary school of the 21st Century differ from the elementary school of today? And, more particularly, what is the role that critical thinking will play in it? To discuss these questions fruitfully, it will be important for related questions to be considered. For example, what sort of technological and social changes can we reasonably expect to take place? What sorts of environmental changes? What sorts of ideological changes? What sort of global, political, and economic changes?

The High School of the 21st Century

The Role of Critical Thinking A Socratically-led discussion focused on the questions: How will the elementary school of the 21st Century differ from the elementary school of today? And, more particularly, what is the role that critical thinking will play in it? To discuss these questions fruitfully, it will be important for related questions to be considered. For example, what sort of technological and social changes can we reasonably expect to take place? What sorts of environmental changes? What sorts of ideological changes? What sort of global, political, and economic changes?

The Community College of the 21st Century

The Role of Critical Thinking A Socratically-led discussion focused on the questions: How will the elementary school of the 21st Century differ from the elementary school of today? And, more particularly, what is the role that critical thinking will play in it? To discuss these questions fruitfully, it will be important for related questions to be considered. For example, what sort of technological and social changes can we reasonably expect to take place? What sorts of environmental changes? What sorts of ideological changes? What sort of global, political, and economic changes?

The Liberal Arts College of the 21st Century

The Role of Critical Thinking A Socratically-led discussion focused on the questions: How will the elementary school of the 21st Century differ from the elementary school of today? And, more particularly, what is the role that critical thinking will play in it? To discuss these questions fruitfully, it will be important for related questions to be considered. For example, what sort of technological and social changes can we reasonably expect to take place? What sorts of environmental changes? What sorts of ideological changes? What sort of global, political, and economic changes?

The University of the 21st Century

The Role of Critical Thinking A Socratically-led discussion focused on the questions: How will the elementary school of the 21st Century differ from the elementary school of today? And, more particularly, what is the role that critical thinking will play in it? To discuss these questions fruitfully, it will be important for related questions to be considered. For example, what sort of technological and social changes can we reasonably expect to take place? What sorts of environmental changes? What sorts of ideological changes? What sort of global, political, and economic changes?

Audio/Videotape Resources

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Audio/Videotape Resources

The Center for Critical Thinking and Moral Critique houses the most extensive collection of critical thinking audio and videocassettes extant. The following describes the very successful **CRITICAL THINKING FORUM 1990**, a series of eight PBS 60-minute programs designed to be an authoritative source on critical thinking issues for staff and curriculum development specialists and educational leaders at both higher educational institutions and elementary and secondary schools.

Contact the Center for a complete listing of available audio and videotapes.

The PBS Series: Part I

What is Critical Thinking

Critical Thinking and the Human Emotions — Most instruction is designed without an adequate understanding of the profound role of human emotions and passions in learning. In this program, Carol Tavris, distinguished social psychologist and author of *Anger: The Misunderstood Emotions*, engages in a lively discussion on the relation of disciplined thought to emotions and passions. Many of the traditional views of reason and emotion are critiqued in this session, and the implications for education emerge vividly.

Critical Thinking and Mathematical Problem Solving — Surely it's not possible to pass a math class without doing much disciplined thinking. Not so! argues Alan Schoenfeld, distinguished math educator from the University of California. Most students do not learn to think mathematically precisely because of the domination of didactic lecture, standard algorithmic practice, and one-dimensional testing that characterizes most math classes. When independent critical thinking is the heart of class activity, Schoenfeld says, genuine mathematical thinking emerges for the first time.

Infusing Critical Thinking into Community College Instruction — For critical thinking to become a significant force in student learning, it is essential that it permeate instruction across the disciplines. Unfortunately, students do not arrive on campus with developed critical thinking abilities and most professors are up in the air as to how they can cover essential content and also foster critical thinking. In this program, faculty development leaders from five diverse community colleges discuss their strategies for making critical thinking central to instruction.

Infusing Critical Thinking into Instruction at Four Year Colleges and Universities — Though four year colleges and universities tend to draw students with higher test scores and grade point averages than those entering community colleges, it does not follow that those students have developed critical thinking skills and abilities adequate to university learning. Five faculty development leaders from diverse colleges and universities discuss the problem of infusing critical thinking into instruction.

Audio/Videotape Resources

The PBS Series: Part II

How to Infuse Critical Thinking K–12

Critical Thinking: The Thinking that Masters the Content — This program investigates why traditional didactic instruction inevitably fails and why critical thinking is essential to in-depth learning. Three dimensions of thought are emphasized: 1) fine-textured thinking such as identifying evidence and reasons, probing for assumptions, drawing careful conclusions, and noticing inconsistencies; 2) skills such as reasoning within multiple points of view and reading, writing, speaking, and listening critically; and 3) affective skills so students develop traits such as fairmindedness, intellectual courage, humility, and persistence.

Transforming Critical Thinking Principles into Teaching Strategies — Critical thinking is based not on rules but on principles that can be learned by any willing teacher and transformed into a variety of teaching and learning strategies. In this program, a variety of grade-levels and subject matter illustrations are used to show how critical thinking principles that are integrated into modes of teaching become modes of learning as well.

Remodelling Lessons and Redesigning Instruction to Infuse Critical Thinking — In this program, the teacher becomes the focus as Richard Paul explains how, by learning to think critically about their own instruction, teachers can remodel their lessons and redesign their instruction. Virtually every traditional lesson or unit can be remodelled in a variety of ways to infuse critical thinking. When it is, passive students become actively engaged. The teacher's monologue becomes a classroom dialogue. And content becomes something understood, mastered, and used — not just something memorized today and forgotten tomorrow.

The Greensboro Plan: Long-Term Critical Thinking Staff Development in an Urban Multi-Racial School District — In its third year of a long-term staff development program to infuse critical thinking, two teachers become full-time classroom consultants to encourage teachers to think critically about their own instruction. The aim is to remodel lessons and redesign instruction in order to infuse reasoning, writing, and critical thinking pervasively. Slowly but progressively, a new atmosphere is developing that encourages independent thinking for both teachers and students. This volunteer program, growing in support from both teachers and administrators, is a model for districts willing to work for long-term, substantial, educational reform.

Oxman-Michelli, Wendy

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The Many Faces of Critical Thinking

The critical thinking movement, celebrated annually at the conference at Sonoma and elsewhere, currently represents the work of members of many different disciplines who share the general educational goals of the philosophers who initiated this effort toward educational renewal. In making their contributions, however, members of diverse disciplines address different sets of concerns and respect different stylistic conventions. Observations at a number of critical thinking conferences reveal the general tendency of participants to attend only those sessions at which members of their own discipline are presenting, or, if they do happen to attend an "alien" session, have negative reactions to the experience. Is it not possible for us to learn from each other?

This presentation will report the results of an analysis of the ways in which critical thinking concerns are conceptualized and presented by members of the various academic and applied disciplines at recent critical thinking conferences that have been open to all perspectives. Attention will be given to the recommendations that are made, based on these concerns, for educational reform. Discussion will focus on ways in which respect for and understanding of different approaches to our mutual goals might be promoted.

Audience: G

MONDAY 3:15 DAR 108

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The Institute for Critical Thinking at Montclair State College: A Third Year Progress Report

Established in 1987 with substantial funding from the New Jersey Board of Higher Education as a "Challenge for Excellence" grant program, the Institute has offered a variety of services to the general college community, with a particular focus on faculty development toward critical thinking as an educational goal across the disciplines at this public, comprehensive, institution of higher education. What has been accomplished in the three years since the Institute's inception? What have we learned as a result of the experience of those three years? Members of the panel will report on the components of the Institute's grant program, and discuss the implications of different levels of faculty responsiveness to the various approaches to faculty development in critical thinking that have been mounted through the Institute.

Audience: G

SUNDAY 3:15 STEV 3076

Sonoma State University Map Legend

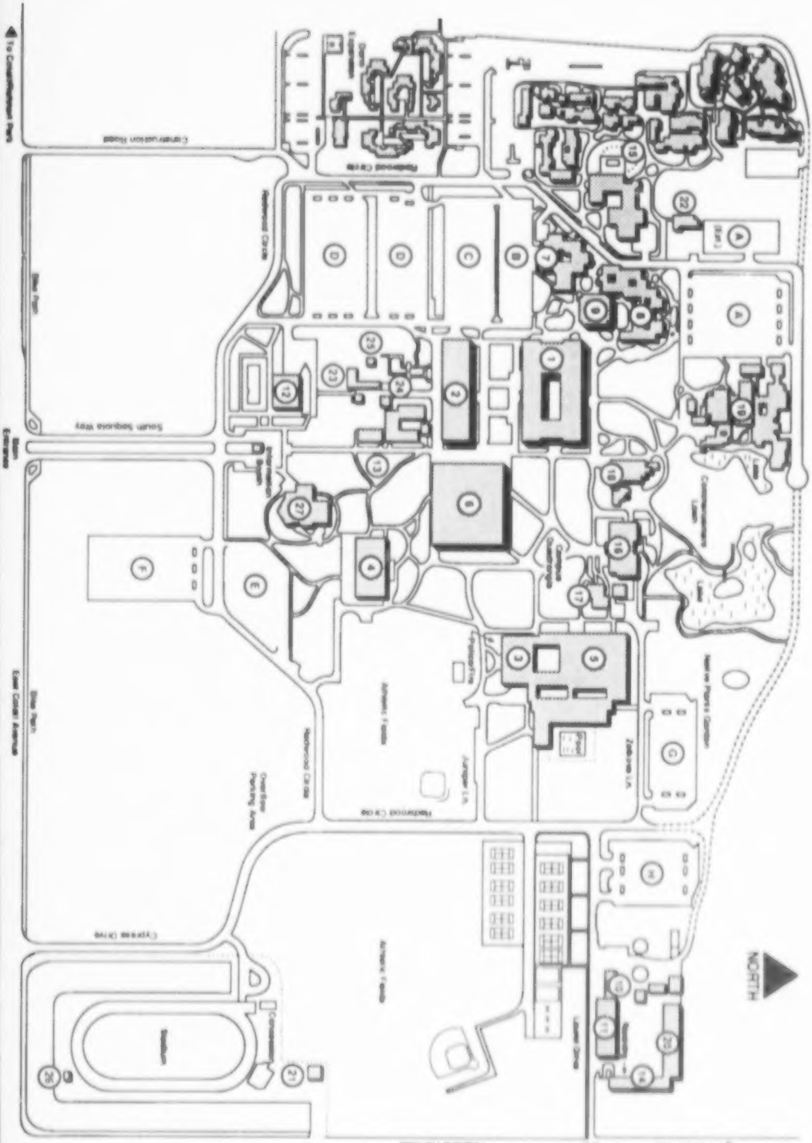
1	**Stevenson Hall (STEV)**
2	**Darwin Hall (DAR)**
3	Field House
4	Ives Hall; Warren Auditorium
5	Physical Education; Main Gym
6	Ruben Salazar Library
7	Student Health Center
8	**Rachel Carson Hall (CH)**
9	**Nichols Hall (NICH)**
10	Plant Operations
11	Corporation Yard Shops
12	Boiler Plant
13	The Village
14	Support Services
15	**Residence Halls**
16	**Commons (Cafeteria)**
17	Bookstore
18	Student Union
19	Art Complex
20	Warehouses
21	P. E. Storage
22	Children's School
23	Greenhouse
24	Animal House
25	Solar Lab
26	Observatory
27	**Evert B. Person Theatre (EPT)**
Bldg. 1	Admissions and Records
Bldg. 3	**Police and Fire Services**
A thru H	**Parking Lot Areas**

Important Phone Numbers and Locations

There are specially-marked on-campus phones available throughout the campus. When calling on-campus from one of these on-campus phones, dial the last four digits only.

	Phone	Location
Campus Operator (Information, Activities)	664-2880	
Center for Critical Thinking and Moral Critique	664-2940	Carson Hall 65
Housing-Off Campus	664-2443	Zinfandel
Housing-On campus	664-2541	Zinfandel
Summer Conference Housing	664-2534	
Public Safety (Campus Police)	664-2143	Field House
Lost and found, Parking information	664-2143	
Emergency Only	664-2911	

Sonoma State University Map


To Santa Rosa
Petaluma Hill Road
South Entrance
Lower Drive
NORTH
Athletic Fields
Stadium
Concessions
Cypress Drive
Redwood Circle
Juniper Ln.
Native Plants Garden
Overflow Parking Area
East Cotati Avenue
Bike Path
Lake
Commencement Lawn
Campus Quadrangle
Information Booth
Main Entrance
South Sequoia Way
Construction Road
To Cotati/Rohnert Park
1
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3
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Sonoma State University, Rohnert Park, CA 94928

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